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ABSTRACT

This report offers details of the results of basic skills testing of the entering freshman class in New Jersey's public colleges. Levels of proficiency in verbal skills, computation, and elementary algebra are estimated from performance on the New Jersey College Basic Skills Placement Test. For the 48,791 students tested in the fall of 1989, 24% appeared proficient in verbal skills, 41% appeared proficient in some verbal areas, and 35% lacked proficiency. In computation, 31% appeared proficient, 24% appeared proficient in some areas, and 45% lacked proficiency. In elementary algebra, 14% appeared proficient, 28% appeared proficient in some areas, and 58% lacked proficiency. Results are presented for different college sectors, for recent high-school graduates, and over a 10-year time period. Special factors are discussed, such as high-school homework as a factor in proficiency, students for whom English is a second language, and outcomes of skills-deficient students who enroll in college remediation. Appendices contain a description of the test and sample questions, a list of participating independent and proprietary institutions, mean scaled scores from 1980-1989, and a description of the proficiency levels established as a guide for college placement procedures. (JDD)

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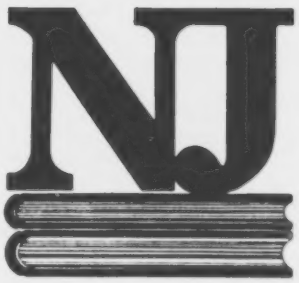

New Jersey College Basic Skills Placement Testing

Fall 1989

HE 023 433

New Jersey Basic Skills Council

Department of Higher Education

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Report to the Board of Higher Education on the Results of the

New Jersey College Basic Skills Placement Testing
Fall 1989 Entering Freshmen

New Jersey Basic Skills Council

January 22, 1990

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NEW JERSEY COLLEGE BASIC SKILLS PLACEMENT TESTING

Fall 1989

EXECUTIVE SUMMARY

The New Jersey College Basic Skills Council annually reports to the Board of Higher Education on the results of basic skills (verbal skills, computation and elementary algebra) testing of the entering freshman class in the state's public colleges. The College Basic Skills Assessment Program not only tests incoming students; it also evaluates collegiate remedial programs. Students identified as needing skills remediation are tracked for two years by the colleges and their outcomes are subsequently described by the Basic Skills Council in a separate report. The current report details the test results for the students entering in Fall 1989.

Levels of proficiency are estimated from performance on the New Jersey College Basic Skills Placement Test (NJCBSPT). Annually revised and administered over the past twelve years, the NJCBSPT is designed to assist colleges in placing already admitted students into remedial or first college-level English and mathematics courses and to provide data on the status of the freshman class to the Board of Higher Education.

The public and participating private colleges and universities in the state tested 48,791 students--about the same total as in the fall of 1988. Full and part-time students, regular, special and EOF admissions are tested. Of the total, 30,179 or 62% were recent (1989) high school graduates. Data for the decade of the l980's are displayed and reveal two conclusions: 1) high percentages, from 35% in verbal skills to 58% in elementary algebra, of students lack competence to start college-level courses and 2) the results are very stable over the ten year period, with the only exception being a slight trend toward improvement in elementary algebra. The situation in New Jersey mirrors the fall 1989 Carnegie Foundation national survey of college faculty in which 75% of all faculty members responded positively to the assertion that "the undergraduates with whom I have close contact are seriously underprepared in Basic Skills."

The NJCBSPT contains sections on reading, sentence skills, essay, computation and elementary algebra. Proficiency in verbal skills is reported by a Total English composite score derived from combining the Reading Comprehension, Sentence Sense and Essay subscores. Fall 1989 students were judged to have the following levels of proficiency according to the standards of college readiness set by the Basic Skills Council:

In verbal skills:

24% appeared proficient,
41% appeared proficient in some areas, and
35% lacked proficiency.

In computation:

31% appeared proficient,
24% appeared proficient in some areas, and
45% lacked proficiency.

In elementary algebra:

14% appeared proficient,
28% appeared proficient in some areas, and
58% lacked proficiency.

Results by College Sector

The differing missions of the state's colleges are mirrored in selectivity of admissions in the different sectors of higher education. Rutgers, the state colleges and NJIT have selective admissions while the 19 community colleges have open admissions policies. The test results parallel these differences; however, all colleges enroll some disadvantaged and academically underprepared students. The percentages of students in each proficiency category by public college sector for 1989 are displayed below:

Proficiencies by College Sector

	APPEAR PROFICIENT %	APPEAR PROFICIENT IN SOME AREAS %	LACK PROFICIENCY %
COUNTY COLLEGES			
Verbal Skills	13	40	47
Computation	17	24	59
Elementary Algebra	4	19	77
STATE COLLEGES			
Verbal Skills	32	47	22
Computation	44	29	28
Elementary Algebra	18	45	37
RUTGERS			
Verbal Skills	60	33	7
Computation	76	16	8
Elementary Algebra	52	37	11
NJIT			
Verbal Skills	32	43	25
Computation	73	19	8
Elementary Algebra	48	45	7

The sector-wide proficiency results in this report approximate the percentages of students who will be placed in remedial courses at the colleges. The results cannot be exact for two reasons: 1) not all students who are admitted and tested actually enroll in the institutions which tested them, and 2) the NJCBSPT is but one of the indicators individual institutions use to make placement decisions about individual students.

Ten-Year Trends Noted

- At the State Colleges: small improvements in both computation and elementary algebra proficiency percentages.
- At Rutgers: small improvements in verbals skills, computation and elementary algebra proficiency percentages.
- At the County Colleges: 3% increase in number tested but noticeable declines in verbal proficiencies over the decade.

Results for Recent High School Graduates

Over the decade recent high school graduates have ranged from 61 to 66% of the students tested. In 1989 62% (30,179) of the test-takers were recent graduates. Sixty percent (60%) of the class of '89 reported that they had taken an "academic" program in high school. This year's graduates were the first to be subject to passing the 9th grade High School Proficiency Test as one condition for graduation. The proficiencies for recent graduates are given below. With the exception of slight improvements in Algebra skills that began in mid-decade (for example, the "Appear Proficient" category in elementary algebra is five percentage points larger than in 1980), the entering cohort shows little change in the past ten years.

Proficiency of Recent High School Graduates

	APPEAR PROFICIENT	APPEAR PROFICIENT IN SOME AREAS	LACK PROFICIENCY
Verbal Skills	27%	44%	29%
Computation	39%	26%	35%
Elementary Algebra	19%	36%	45%

Overview

The size of and relative lack of improvement in the "Lack Proficiency" category are of continuing concern to a higher education system that would strive toward excellence within all institutional sectors. The fact that other states with large testing programs (e.g., Tennessee, Texas, California, Florida, Georgia) typically report similar or lower results is of little consolation. Indeed the 1990 report of the National Assessment of Educational Progress (*Writing Report Card, 1984-88*) recently indicated that "...on average, the writing performance of these (11th grade) high school students showed no significant change from 1984-1988."

While many college/school collaborations currently function well in NJ, improvement in the Basic Skills proficiencies of recent New Jersey high school graduates--many of whom come from the middle ranks of their graduating class--should be the focus of much more widespread work at college-school relationships than currently exists. This year's results indicate virtually no impact related to the 9th grade proficiency test requirement. The Department of Education is correct in "...raising the bar" for graduation proficiency to eleventh grade skill levels. Students under the new mandate to pass the 11th grade HSPT will enter college in the fall of 1995 but the Council anticipates that the effects will be felt sooner than that date.

In order to assure that expected improvements in Basic Skills in the nineties will be more easily detected, the Council will:

- Define and publish separate reading and writing proficiencies for its 1990 report.
- Recommend correlational studies between the new 11th grade HSPT and the NJCBSPT.
- Seek comprehensive input from our colleges on the continued applicability of the current proficiency standards into the next decade.

INTRODUCTION

The New Jersey Basic Skills Testing Program was designed in 1977 with two purposes. First, the testing aspect of the program was to provide information to aid colleges in placing students in appropriate courses during the freshman year. Second, the testing program was to report to the Board of Higher Education on the status of basic skills preparedness (in reading, writing, computation and elementary algebra) of the entering freshman class in public colleges and universities. These dual functions continue as the central purpose of the testing program.

In addition to placement testing, the New Jersey Basic Skills Assessment Program evaluates the effectiveness of public college remedial programs. Periodic reports are issued on two-year cohort studies comparing students needing and completing remediation with their non-remedial counterparts at each of the college's remedial programs

Definition of Basic Skills

"Basic Skills" refers to skills of thought and communication that an individual needs not only to take advantage of the opportunities offered by a college education but also to become a fully participating member of society. These are not the minimal "coping skills" or "life skills" which many consider essential to mere survival (e.g., balancing a checkbook, reading a magazine, filling out a job application). Rather, the "basic skills" of reading, writing, and mathematics are essential for thinking, learning, and succeeding within the context of a college curriculum. They are fundamental building blocks which underlie all adult learning and which the Basic Skills Council[1] believes are required for full participation in our society.

In 1978, the Council, in its first report to the Board of Higher Education, defined and clarified what it meant by "basic skills":

> *By "basic skills" the Council means the tools of intellectual discourse used in common by participating members of all academic communities. These tools are the language of words and the language of mathematics. Students need these tools to extract information, to exercise and develop the critical faculties of the mind, and to express thoughts clearly and coherently.*
> *Without them, learning is impaired; communication is imprecise; understanding is impossible. A test of "basic skills," therefore, is a test to determine whether an individual has developed the practical working skills of verbal and mathematical literacy needed to take advantage of the learning opportunities that colleges provide.*
>
> *To define "basic skills" in this way is not to deny the validity of other modes of communication--within the artistic realm of discourse, for instance, the languages of music, motion, image, color, light, and texture express a universe of perceptions,*

---

[1]The New Jersey Basic Skills Council is an advisory group of fifteen faculty and administrators drawn from each of the college sectors in the state of New Jersey and two members-at-large.

feelings, and emotions which cannot be expressed adequately by words and numbers and logic alone. Nor is the Council's definition of the "basic skills" inimical to the value of diversity. We are, to the contrary, exceedingly sensitive to the differences between colleges: differences in their students; differences in their curricula and pedagogical philosophies; differences in their missions. But in one respect all colleges are identical: their ultimate purpose is to foster learning. The Council asserts unequivocally that the "basic skills" of reading, writing, and mathematics are a prerequisite to learning at the college level. If the possession of these skills is "standardization," we believe that standardization in this sense is good.

The Basic Skills Council continues to subscribe to this definition, which is embodied each year in the development of the *New Jersey College Basic Skills Placement Test* (NJCBSPT).

Nature of the Test

The NJCBSPT was developed by the Basic Skills Council in conjunction with the Educational Testing Service (ETS) and first administered to freshmen entering public colleges in the fall of 1978. To date more than 600,000 students have taken the NJCBSPT. The purpose of the test is placement at levels at and below the first-level college courses. It is designed to be relatively easy for well prepared students and to discriminate among underprepared students, thus affording colleges the needed range of scores to facilitate placement at several remedial levels. The test measures skills that students entering college should have. Indeed, the Basic Skills Council believes that the level of skills in reading, writing, and mathematics tested by the NJCBSPT is minimal for all students graduating from high school, whether or not they intend to enroll in college.

The NJCBSPT is a three-hour-and-twenty-minute examination consisting of an essay and four multiple-choice sections: Reading Comprehension, Sentence Sense, Computation, and Elementary Algebra. It is a criterion-referenced examination. The test questions address specific skills (such as understanding the main idea in a reading passage, writing in an organized fashion, solving algebraic equations, etc.) which are judged as the minimum necessary to begin college work. Students with adequate skills achieve high scores on the test; superior skills, however, cannot be discerned from the test. The distribution of scores on the multiple choice sections of the test is not "normal" in the statistical sense, since the test is designed to make finer distinctions at the lower end of the range than at the upper end. (See Appendix A for further details on the NJCBSPT, including sample questions and the information provided to students before taking the test.)

The test is required of all freshmen (full- and part-time) entering New Jersey public colleges. In addition, eleven independent institutions in the state administer the NJCBSPT to their entering freshmen. (See Appendix B for a list of these independent colleges and universities.)

A new version of NJCBSPT is issued in March of each year, and colleges administer the test locally, on their own schedules, through February of the following year. To promote test familiarity, colleges also mail to each admitted student an *Information Bulletin* (see Appendix A) which contains sample questions for each subtest. This information bulletin assists the students in becoming familiar with the test questions

prior to their testing. The student answer sheets (and computer data tapes, if applicable) are sent to ETS for scoring and data analysis under contract with the Department of Higher Education.

Each new form of the NJCBSPT is statistically equated to the previous form. (See Appendix C for an explanation of equating procedures.) The scores are reported on a consistent scale, from 135 to 189 for verbal skills or "Total English," 139 to 180 for Computation and 148 to 190 for Elementary Algebra, so as to assure comparability from year to year. (See Appendix D for data on scaled score means and standard deviations for each test section over the last five years.)

Information on NJCBSPT publications and reports can be found on the inside back cover of this booklet. A technical monograph on the NJCBSPT's statistical properties is provided by ETS each year and is available upon request.

Placement

Students are tested only after admission to college. The results of the tests are used, in conjunction with other information, for initial placement in English and mathematics courses. Proficiency categories for purposes of statewide reporting are defined by the Basic Skills Council (see Appendix E), but individual institutions set their own algorithms for appropriate student placement using NJCBSPT test scores and other available information. No public college uses placement levels below the Council's suggested minima. The Council has consistently recommended that placement be based not on one subtest score but on a combination of several test scores and other information (such as the Scholastic Aptitude Test scores, Test of Standard Written English score, and high school record).

Most public colleges and universities in the state use multiple criteria for placing students into either remedial or regular college-level courses. The system-wide result of these practices is that virtually all of the enrolled students in the "Lack Proficiency" category and some of the students in the "Appear Proficient in Some Areas" category are identified for remedial courses. The 1989 basic skills test results clearly indicate that the extent of remedial instruction that must be provided by our institutions has not significantly diminished.

Reporting Format

Test results for typical large-scale achievement and/or aptitude tests (such as the Scholastic Aptitude Test) are reported in terms of mean scaled scores and standard deviations. While these measures are useful for these types of instruments (and are included here for the NJCBSPT in Appendix D), the Basic Skills Council believes that for an instrument whose purpose is placement, the percentages of students who need, might need, or do not need remediation are the most important data to transmit to the Board of Higher Education. Consequently, the results reported here are in terms of the percentages of students falling into three proficiency categories: "Lacked Proficiency," "Appear Proficient in Some Areas," and "Appeared to be Proficient." Descriptions of these levels as related to test performance can be found in Appendix E. The uppermost category, "Appeared to be Proficient," is so named because the NJCBSPT does not contain a sufficient number of "difficult" items to ascertain with confidence that a given student is surely proficient in the skill area.

RESULTS

Statewide Findings

The proficiencies described in this report are based on the scores of 48,791 students tested at New Jersey public (and 11 private) colleges between March and October of 1989. This total differed by less than one tenth of a percentage point from the total tested by the same time last year. Not all these students actually enrolled in New Jersey's colleges by the fall of 1989. At the time of this writing, official statewide enrollment figures for new freshmen were not available.

This year's results differ little from those of previous years. Large proportions (in some sectors, the majority) of students enter our colleges lacking proficiency in at least some areas of reading, writing, computation, and elementary algebra. Table 1 and Figures 1-4 display the levels of proficiency exhibited by our entering freshmen in 1989. The verbal skills area is based on the NJCBSPT Total English score, a composite of the Reading Comprehension, Sentence Sense, and Essay subtests. Computation and elementary algebra proficiencies are based on the results from the Computation and Elementary Algebra tests respectively.

Table 1 displays the statewide results for 1980 through 1989. Over this time, the stability of the results is striking; the proficiency percentages have changed by no more than six points over the ten years displayed. In addition, the mean scores for each student (see Appendix D) are extremely stable. This stability is due, in part, to the large number of students tested. To effect a change of but one percentage point within a proficiency category, approximately 450 students who are near the cut points must have higher or lower scores in a given year. But more important than this statistical inertia is the fact that the skill levels of our entering students are not improving at the very time when the "high-tech" world is expecting more from them.

Of our entering students in 1989, in verbal skills:

35% lacked proficiency,
41% appeared proficient in some areas, and
24% appeared to be proficient.

In computation:

45% lacked proficiency,
24% appeared proficient in some areas, and
31% appeared to be proficient.

In elementary algebra:

58% lacked proficiency,
28% appeared proficient in some areas, and
14% appeared to be proficient.

Trend in Elementary Algebra. One trend noted in the 1988 results report was a slight improvement in the elementary algebra proficiencies. The proportion of students who "Appear Proficient" had gradually improved from 9 to 11% in the early years of testing to 15% in 1988. The improvement was small and occurred only among the

better-prepared students. The "Lack Proficiency" category has been relatively stable at about 60%--a level indicating very weak mathematics performance statewide. For the 1989 entering cohort the small improvement among the proficient category has leveled off.

Trends by College Sector

The percentages of students in each proficiency category for the four sectors of New Jersey public colleges (19 county colleges, nine state colleges, three campuses of Rutgers, and the New Jersey Institute of Technology) also display the stability noted in the statewide results. Tables 2-5 present the results by sector for the years 1980-1989.

By virtue of their selective admissions processes, Rutgers, the New Jersey Institute of Technology and the state colleges enroll higher percentages of students who "Appear Proficient" than do the county colleges, which enroll students through an "open admissions" policy. Variations in the proficiency percentages in Tables 2-5 must be interpreted cautiously. Yearly raw-to-scaled-score conversions and consequent "rounding" of the percentages in the proficiency categories can have as much as a three-percentage-point effect on the size of the category. Consequently, no trend should be inferred from these data until the difference in the categories reaches five percentage points in one year or is consistent over many years. By these criteria, the following longitudinal shifts have occurred:

- At the state colleges (Table 3), the proportion of students who "Appear Proficient" in computation has improved from 36% in 1980 to 44% in 1989. There has also been a concomitant decrease in the proportion who "Lack Proficiency" from 34% to 28% in 1989.

- At the state colleges, the proportion of students who "Appear Proficient" in elementary algebra has improved from 10% in the early years to 18 to 20% in the last two years. There has also been a decrease in the proportion of students in the "Lack Proficiency" category from 49% to a current low of 37% in 1989.

- At Rutgers (Table 4), the proportion of students who "Appear Proficient" in verbal skills has improved from the 56% in 1980 to 64% in 1988, but has regressed to 60% in 1989. The proportion who "Lack Proficiency" has decreased from 11% in 1980 to 7% in 1989.

- In computation at Rutgers, the proportion of students who "Appear Proficient" has improved from the 64-66% level to 76% in 1989. The proportion of students who "Lack Proficiency" in computation has declined from 13% in 1980 to 8% in 1989.

- In elementary algebra at Rutgers, the proportion of students who "Appear Proficient" has improved from the 37-38% level in the early years to 52% in 1989--a substantial gain but a drop from the 1988 high of 57%. The proportion of students who "Lack Proficiency" has been reduced from the 19% in 1980 to 11% in 1989.

- The relatively small number of freshmen at NJIT means that test score changes for only a few students can change the proportions of students in each proficiency category more dramatically than in sectors with a large number of students. Thus year-to-year fluctuations in percentages are larger at NJIT than

in other sectors, and trends cannot be as easily identified. It does appear, however, that two negative trends have developed over the last ten years. The proportion of students lacking verbal proficiency has increased from 16% in 1980 to 25% in 1989. Better prepared students have declined from 44% of the class to 32% in 1989. In elementary algebra those lacking proficiency have remained at a very low percentage (7%) but as in the verbal area, the proportion of students who "Appear to be Proficient" has declined from 56% in 1980 to only 48% in 1989.

- In the county college sector the number of students tested (30,157) increased by 3% over 1988 and represented the highest since 1983. However, the percentage of students lacking verbal proficiency also rose (to 47%, see Table 2)--the weakest performance in a decade. The mean scores for the reading subtest (see Appendix D, p. 2) have also dropped for this sector from 161 early in the decade to 157 in 1989.

Recent High School Graduates

Of the 48,791 students tested, 30,179 or 62% were "recent" high school graduates--i.e., those who graduated in 1989 (see Appendix D, Part 6). The four-year institutions tend to test and enroll recent graduates as much greater proportions of their entering classes than do the two-year colleges (see Table 12). Recent graduates as a percentage of test-takers, in descending order, are 93% at Rutgers, 91% at NJIT, 79% among the state colleges (down three percentage points from 1988) and 49% among the county colleges (down 2 percentage points from 1988).

Of all recent graduates, 48% were tested at the two-year institutions; 23% were tested at the state colleges; 18% were tested at Rutgers; 9% were tested at the private colleges; and 2% were tested at NJIT.

The proficiency percentages of recent graduates indicated that about one in four (29%) needed remedial work in reading or writing. Even higher percentages (at least 35% in computation and at least 45% in elementary algebra) needed remedial mathematics work. Table 6 displays the statewide results for recent high school graduates from 1980-1989. Figure 4 displays the following 1989 proficiency category breakdown:

In verbal skills:

29% lacked proficiency,
44% appeared proficient in some areas, and
27% appeared proficient.

In computation:

35% lacked proficiency,
26% appeared proficient in some areas, and
39% appeared proficient.

In elementary algebra:

45% lacked proficiency,
36% appeared proficient in some areas, and
19% appeared proficient.

Trends For Recent High School Graduates. In Table 6, a slight upward trend is apparent in the elementary algebra skill area. The proportion of students in the "Appear Proficient" category in elementary algebra has increased from 15% in the early years to 19% in 1989, although there is a decrease from the high of 21% in 1988. Further, the proportion of students in the "Lack Proficiency" category has declined from 49-50% in the early years to 45% in 1989. The slight improvement in algebra proficiency is more pronounced for students who were already competent than for those who likely would have needed remediation (See Fig. 5).

Results by High School Program. Students admitted to the New Jersey public higher education system are diverse, not only in terms of their age and the year of their high school graduation, but also in the type of high school programs they took before going to college. According to the students' self-reports, 74% of the 1989 high school graduates came from an academic or college preparatory program (See Table 15B). The other program types included general (17%), career oriented, i.e., business, vocational or industrial arts (8%), and other (1%). These percentages are virtually unchanged from 1988.

The college basic skills proficiency of students in these subgroups who come from NJ high schools varies considerably. Table 6A displays the verbal skills proficiency results for each of the high school programs. Two findings emerge from Table 6A. First, it is clear that the recent graduates from academic programs have considerably better reading and writing skills than students who elected other programs. Second, it is also clear, however, that only 33% of the "college-prep" students appeared proficient in verbal skills (down three percentage points from last year), and at least 19% (up one percentage point from last year) would need remedial reading/writing in college.

The Basic Skills Council believes that the rudimentary skills tested by the NJCBSPT should be attained by all high school graduates--regardless of whether they elect "academic" or "vocational" tracks.

High School Mathematics and College Proficiency. The traditional mathematics preparation for college is at least three years of high school courses, including Algebra I, II and Geometry. Course variations, however, exist in high school curricula. Many students take a fourth year of high school mathematics (21%), but only a minority (about 14% of the recent graduates tested) report taking calculus during this fourth year. Tables 7 and 8 display the relationship between high school mathematics curricula and subsequent proficiency levels on the NJCBSPT Computation (Table 7) and Elementary Algebra (Table 8) subtests. (Tables 7 and 8 include only New Jersey graduates who reported that their best language was English.) The data, as in previous years, indicate that the groups of students who took fewer than four years of mathematics are highly unlikely to exhibit proficiency in elementary algebra. For example, in Table 8, course category #2 includes the 1,678 students who took only one year of algebra in high school. Of these, only eighty-one students scored high enough to "Appear Proficient in Some Areas" in elementary algebra and only one student scored high enough to reach the "Appear Proficient" category. In category #5, of the students who took the typical "college prep" program of Algebra I, II and Geometry, only 4% "Appeared Proficient" in elementary algebra. Of 7,677 students in this category, only 280

answered 25 or more of 30 elementary algebra questions correctly. In category #9, students who completed a "college prep" sequence that included calculus were much more likely to "Appear Proficient" (66%) in elementary algebra. Table 14 indicates that Rutgers and NJIT together enroll 48% (2,500 of 5,176) of all the tested students who took calculus in their high school curriculum.

Three generic levels of preparation emerge from the course categories in Tables 7 and 8. First, students who have completed two (or fewer) years of mathematics have almost a zero chance of "Appearing Proficient" in elementary algebra. Second, students who completed Algebra I & II, Geometry and Trigonometry (category 6) have approximately a 22% chance of "Appearing Proficient" in elementary algebra. Finally, students who complete four years of mathematics including calculus have almost a two-thirds chance of "Appearing Proficient" in elementary algebra. The NJCBSPT Elementary Algebra subtest is composed of direct questions on algorithmic skills typically learned in the ninth grade. These data suggest that not only are the recent statewide efforts to "define" topics for high school math syllabi warranted but also that reasonable standards for student accomplishment should also be enforced.

It should be noted that the study of calculus is not necessarily the causal variable in ensuring proficiency in algebra. It is probably true that only the best prepared students from the three-year high school math sequence elect calculus. However, students who take senior math courses other than calculus also display slightly higher algebra proficiencies than the students completing only the three-year sequence. The Council would like to see a strengthening of all mathematics instruction--concentrating on arithmetic through elementary algebra--so that more students will be sufficiently prepared to elect the fourth year of high school mathematics. Recent large scale reform efforts such as Project Prism and The New Jersey Algebra Project are expected to yield an improvement in student mathematics proficiencies.

Non-recent High School Graduates

Of all students tested this year, about 37% either graduated before 1989, did not graduate or did not respond (4%) to the question. Graduates from the current year made up 2% less of the total cohort tested compared with 1988. As can be seen in Table 12, 20% of the test takers indicated that they graduated before 1987. Of the 18,281 non-recent high school graduates, 15,388 or 84% were tested at the community colleges. Compared with recent grads in Table 15B, the older students tend to elect part-time attendance status (52% vs 8%) and are much less likely to have taken a "college-prep" program while they were in high school (41% vs 74% of recent grads). In addition, they were much more likely to have taken "General Math" or "Business Math" instead of Algebra, Geometry or Trigonometry while in high school.

The Basic Skills Test proficiencies of the non-recent graduates lagged far behind those of recent graduates. As can be seen in Table 9, 47% of the older group lacked proficiency in verbal skills, 63% lacked proficiency in computation, and 79% were seriously deficient in elementary algebra skills.

The large numbers of older students who need skills assistance pose a challenge, particularly to the community college sector where the majority enroll. Both academic advisement strategies and faculty sensitivity to adult learning styles must be appropriately matched to the non-recent graduate.

Demographic Information

Students taking the NJCBSPT answer a series of "Background Information" questions. Summary data on this self-reported information are presented in Tables 10-15 and 15A-B. On most of the variables, the population is as consistent across time as the test results have been: the majority (53%) of students in the system are female (Table 10); 74% of all students expect to enroll in college full-time (Table 11); only 60% took a traditional academic high school program before coming to college (Table 13).

High School Homework: A Factor in Proficiency

Students were asked to categorize the amount of time they spent per week in high school doing homework requiring reading, writing and mathematics. In all three disciplines, the typical response from students was one to three hours per week. In contrast, the students admitted to Rutgers and NJIT reported spending on average several more homework hours.

The amount of time students spend on homework was found to have a positive relationship to the test results. Students who spent four or more hours per week on homework were much more likely to score above the "Lack Proficiency" category than were students who spent an hour or less per week on homework in each discipline. While homework time is certainly not the only factor related to adequate academic preparation, it is one of the necessary conditions.

Students for Whom English is a Second Language

Six percent of the test takers reported that English was not their best language and 17% said that a language other than English was spoken at home (Table 15). Ninety percent or more of the students tested in each sector reported that English was their best language. Greater percentages of students at Rutgers (24%) and NJIT (42%) than in the other sectors reported that they speak a second language at home.

The Basic Skills Council's policy is to defer the testing of students for whom English is a second language until they complete their ESL instruction.

DISSEMINATION OF NJCBSPT RESULTS

To Colleges

Since a central purpose of the NJCBSPT is to aid in placement of students into appropriate freshman courses prior to registration, the colleges are provided with summary reports six times during the testing year. During the peak testing period (summer), essays are read weekly (by two trained readers) and colleges can arrange for weekly reporting of results.

To Students

The *Information Bulletin* (see Appendix A) contains up-to-date information about the test along with sample test questions. Sufficient quantities of these bulletins are sent to the colleges for distribution to students prior to their taking the test. ETS mails individual student reports (scores) to the colleges. The institutions then inform the students of the results and use the NJCBSPT results as well as other student data for placement.

To High Schools

In the spring, the accumulated results of each high school's alumni are sent in aggregate form and by individual student scores (for the students who signed the permission release statement on the test). The report to the principals contains an analysis of responses to each test question (e.g., the percentage of the class that was successful). In addition, a copy of this statewide report with a cover letter from the School Boards Association is sent to each school board chairperson.

To the Board of Higher Education and the Higher Education Community

This statewide report is provided not only to the Board of Higher Education but also to all public and private institutions in New Jersey, to other state higher education agencies, and upon request to other interested parties.

To Interested Citizens

This and other Basic Skills publications (see inside back cover) are available without charge to New Jersey citizens. In addition, program staff are available to speak to school boards and disseminate information through such organizations as the Public Education Institute, the Education Commission of the States, The ERIC Network and other professional organizations.

OUTCOMES OF SKILLS-DEFICIENT STUDENTS WHO ENROLL IN COLLEGE REMEDIATION

The present report is one of a series that the Basic Skills Council presents to the Board of Higher Education. The follow-up to this report is the *Report on the Effectiveness of Remedial Programs*, a two-year analysis of the outcomes of the students who are placed into over a hundred remedial programs in New Jersey's public colleges and universities. Many severely deficient students require three to four semesters to complete their remedial work. Outcomes data for the students tested and reported on here will be collected in August 1991.

Reports on previous two-year cohorts have indicated that for those underprepared students who complete their college's prescribed remedial sequence, their skills are upgraded to a level where they can be retained within, and hence profit from, higher education. Those students completing remediation across all skill areas exhibit two-year retention rates similar to or higher than non-remedial students. In subsequent college-level courses that assume proficiency in the skills just remediated, students who complete remediation generally pass the courses at rates similar to non-remedial students. In contrast, the "successful survival rate" (a measure of combining retention with the percentage of students who have a C or better average) of students who needed but did not complete remediation is only about a third that of those students who completed remediation. The Basic Skills Council's *Report on the Effectiveness of Remedial Programs in New Jersey Public Colleges and Universities, Fall 1984-Spring 1986* (see back cover) contains a full description of these results.

Beginning with the students who entered in Fall 1987, those exiting college remedial programs were re-tested with an alternate form of the NJCBSPT. The expectation is that the preponderance of such students in a given program will, on re-test, reach or exceed their college's placement minimums for entry into the college-level writing and mathematics courses. Such re-testing will not be the only measure which will determine whether a student moves on to the college-level course. Faculty judgment on course grades and exams, not merely the NJCBSPT score, will continue to determine whether individual students move into college-level courses. The Basic Skills Council monitors the results in terms of percentages in each program who reach the minimum standard. This re-test performance, in aggregate form, is one of the multiple indicators the Basic Skills Council uses to assess the effectiveness of public college remedial programs.

CONCLUDING COMMENTS

Stability of weak test results and of the demographic characteristics of the test-takers are the major findings of the testing program. The percentages of underprepared students entering our institutions continue to be too large by any standard. Because of the size of the population tested (approximately 50,000) and its diversity, abrupt changes in the sizes of the proficiency categories reported should not be expected. However some incremental changes over a decade have been noted. The state colleges and Rutgers have been testing students with slightly better skills than those tested in the early 1980's. On the other hand, proficiencies have apparently declined somewhat among the increasing numbers of adults being tested at the open-admission county colleges.

This testing program is not sufficiently broad-based to detect changes in the overall effectiveness of pre-college statewide education. New Jersey remains a leading state in the emigration of high school graduates to other states' higher education systems. While the test results are aggregated in this report by recent and non-recent high school graduates, individual schools cannot be adequately judged or compared using the sample of their seniors which turns up in the tested population. However, it is clear from a year-to-year comparison of the cohort of recent graduates that there has been little impact on the college-going population of the ninth grade *High School Proficiency Test* (HSPT).

By taking a decade-long view, rather than yearly comparisons, we have noted slight upward trends statewide in elementary algebra, and in verbal skills and computation at the more selective institutions. This good news is tempered by the fact that the trends are small and appear greater for the well-prepared students than for the poorly prepared. More encouraging for the continuation of improvement among recent high school graduates is the initiation of the new, more stringent eleventh grade level HSPT. The first class to be required to pass the eleventh grade HSPT will reach college in the fall of 1995. We are optimistic that the higher standards created by these initiatives will make a dramatic positive change in the data we have been reporting since 1978.

Further, the Council endorses the continuation and hopeful expansion of Department of Higher Education's own initiatives to help continue these favorable trends in student preparation by:

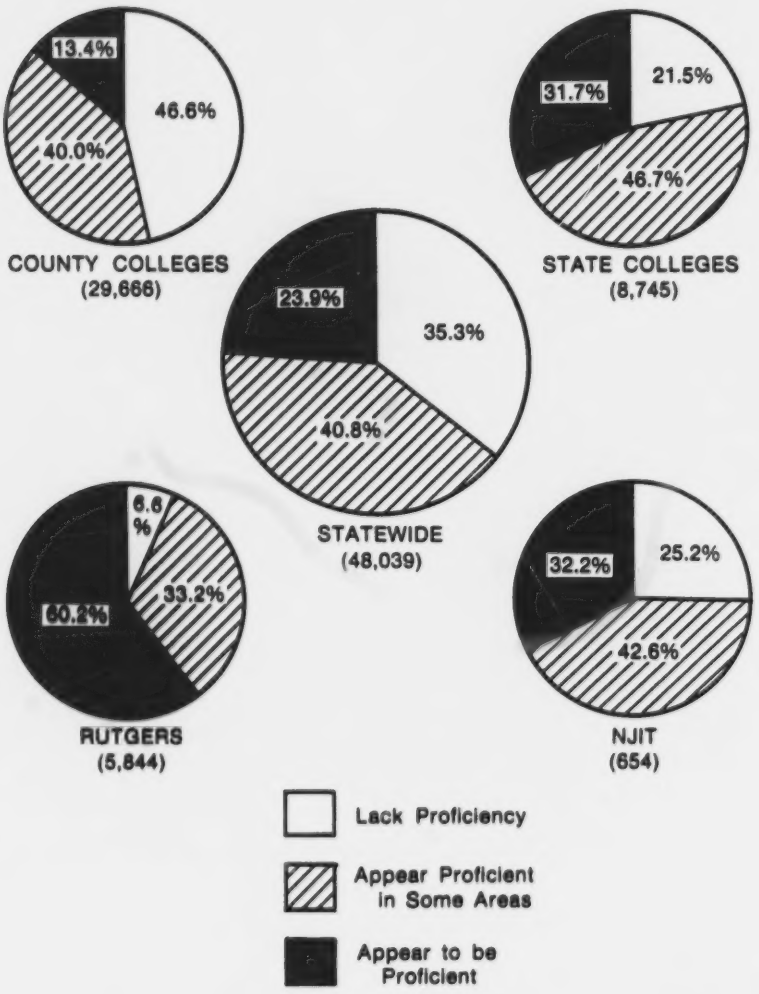
- expanding programs to distribute competitive grants for college/school collaboration;
- fostering "academic alliances" among middle/high school and college faculty, particularly in the disciplines of reading, writing and mathematics;
- working with the Department of Education to assure that the new eleventh grade HSPT will require standards of achievement that will lessen the need for college remediation;
- stimulating an effort to make faculty teams available to visit high schools, discuss placement test results and discuss college proficiency expectations with principals and curriculum supervisors;
- encouraging school boards to review the NJCBSPT results as one of several indicators of educational effectiveness of their high schools; and

- developing new outreach materials (brochures, videos, workshops, etc) which will allow middle and high school students to gain a concrete sense of the basic skills proficiencies expected at New Jersey colleges so that the currently observed levels of need for college-based remedial instruction can be reduced.

FIGURE 1

Levels of Student Proficiency by Sector
Fall 1989

Verbal*



*Based on Total English composite score (Reading, Comprehension, Sentence Sense and Essay).

FIGURE 2

Levels of Student Proficiency by Sector
Fall 1989

Computation

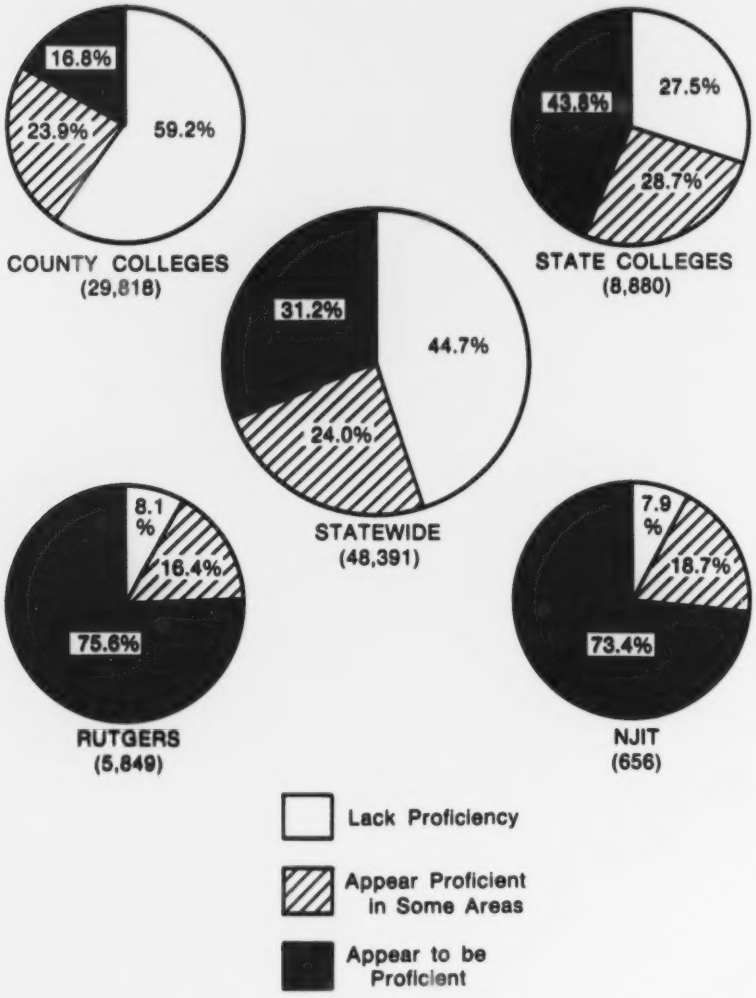


FIGURE 3

Levels of Student Proficiency by Sector
Fall 1989

Elementary Algebra

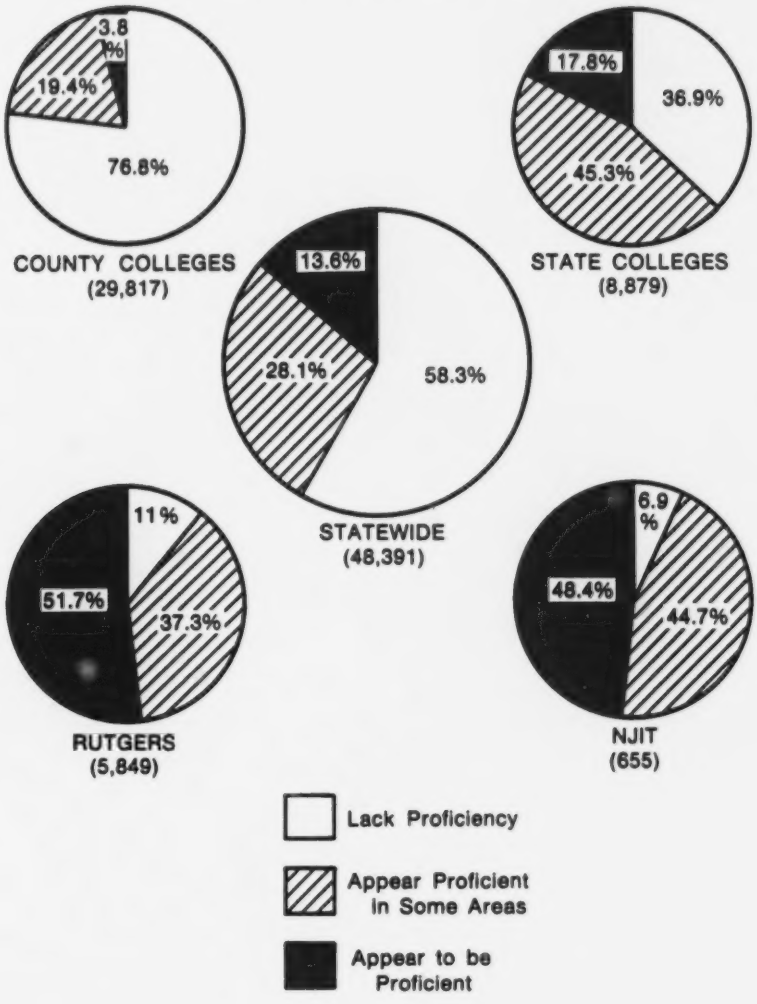
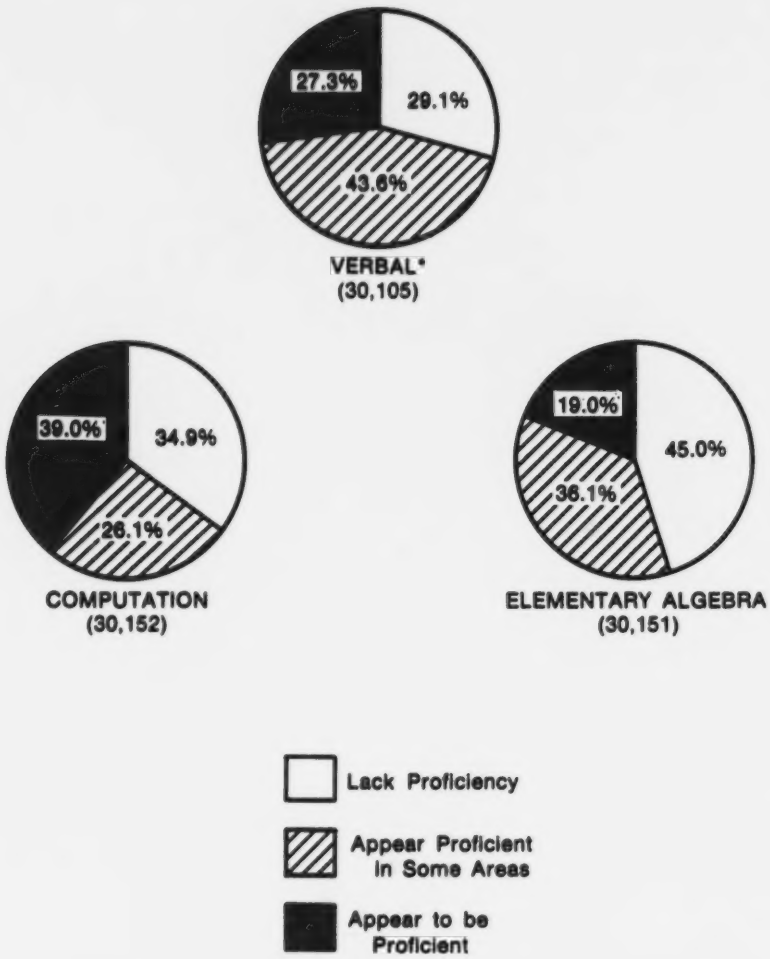


FIGURE 4

Levels of Student Proficiency by Skill Area
Recent High School Graduates
Fall 1989



*Based on Total English composite score (Reading Comprehension, Sentence Sense and Essay).

Figure 5

Elementary Algebra Proficiencies For Recent High School Graduates, 1980-89

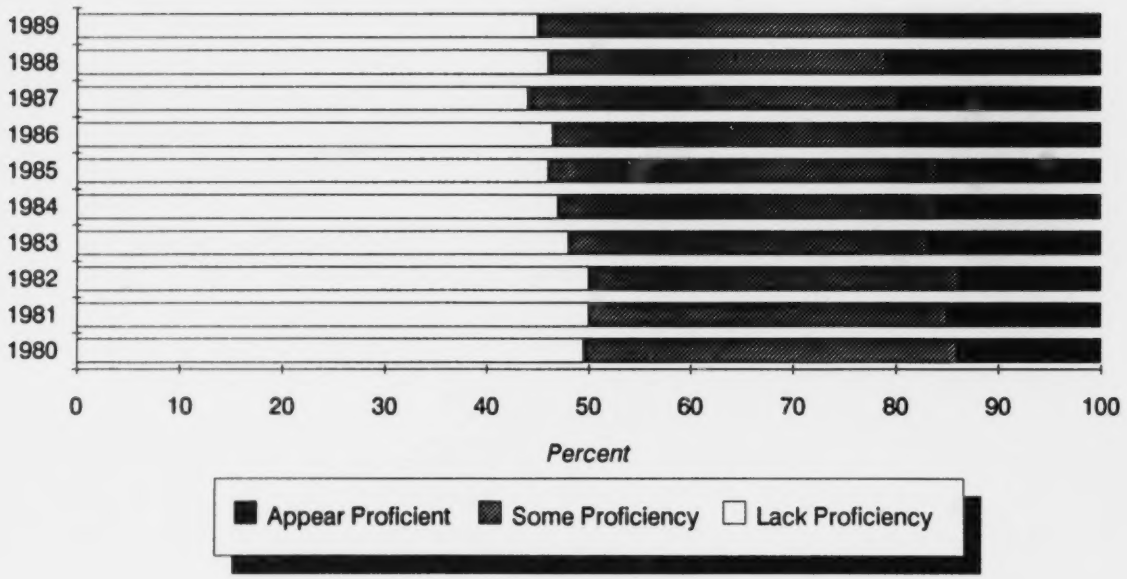


TABLE 1*

Ten Year Comparison of Statewide Test Results[1]

1980 - 1989

	1980	1981	1982	1983	1984	1985	1986	1987	1988		1989	
Number of Students Tested	47,951	49,833	51,135	51,321	46,465	44,344	44,284	42,603	48,358		48,791	
	%	%	%	%	%	%	%	%	%	#	%	#
VERBAL												
Lack Proficiency	31	32	31	31	33	34	33	34	33	15,885	35	16,966
Appear Proficient in Some Areas	40	41	41	40	41	40	41	40	41	19,735	41	19,593
Appear to be Proficient	28	27	27	29	26	26	27	27	26	12,515	24	11,480
COMPUTATION												
Lack Proficiency[2]	45	44	46	45	47	44	47	46	47	22,807	45	21,651
Appear Proficient in Some Areas	24	25	22	25	25	24	23	23	23	11,086	24	11,634
Appear to be Proficient	30	30	32	30	28	32	30	31	30	14,465	31	15,106
ELEMENTARY ALGEBRA												
Lack Proficiency[2]	62	62	61	60	60	59	60	57	59	28,512	58	28,207
Appear Proficient in Some Areas	27	27	28	28	28	29	26	29	26	12,581	28	13,600
Appear to be Proficient	11	11	11	12	12	12	15	15	15	7,265	14	6,584

*Includes students who were admitted but who may not have enrolled in college after being tested. Students from the participating independent colleges are included in the statewide totals. (See Appendix B for a list of these colleges.)

[1]See Appendix E for a description of proficiency categories.
[2]Includes those students not attempting this portion of the test.

TABLE 2

Ten Year Comparison of Sector Test Results[1]

County Colleges
1980 - 1989

	1980	1981	1982	1983	1984	1985	1986	1987	1988		1989	
Number of Students Tested	28,464	30,073	30,380	30,677	28,191	26,288	26,322	24,117	29,209		30,157	
	%	%	%	%	%	%	%	%	%	#	%	#
VERBAL												
Lack Proficiency	41	42	41	42	44	45	43	46	44	12,812	47	13,821
Appear Proficient in Some Areas	40	40	40	40	40	40	40	39	41	11,648	40	11,857
Appear to be Proficient	19	18	19	18	16	16	16	15	16	4,659	13	3,988
COMPUTATION												
Lack Proficiency[2]	58	56	58	58	60	58	61	62	61	17,900	59	17,659
Appear Proficient in Some Areas	24	25	21	24	23	24	23	22	22	6,500	24	7,136
Appear to be Proficient	19	20	21	18	17	19	16	16	17	4,809	17	5,023
ELEMENTARY ALGEBRA												
Lack Proficiency[2]	78	78	77	76	76	77	77	76	77	22,442	77	22,912
Appear Proficient in Some Areas	18	18	19	20	20	20	18	20	19	5,479	19	5,775
Appear to be Proficient	4	4	4	4	4	4	5	4	4	1,288	4	1,130

[1]See Appendix E for a description of proficiency categories.
[2]Includes those students not attempting this portion of the test.

TABLE 3

Ten Year Comparison of Sector Test Results[1]
State Colleges
1980 - 1989

	1980	1981	1982	1983	1984	1985	1986	1987	1988		1989	
Number of Students Tested	10,669	10,338	11,328	10,981	9,767	9,237	8,817	9,369	9,214		8,926	
	%	%	%	%	%	%	%	%	%	#	%	#
VERBAL												
Lack Proficiency	22	22	21	20	22	24	23	22	21	1,918	22	1,884
Appear Proficient in Some Areas	44	45	45	44	47	47	47	44	46	4,201	47	4,088
Appear to be Proficient	34	33	34	36	31	30	31	34	33	3,014	32	2,773
COMPUTATION												
Lack Proficiency[2]	34	33	35	33	36	31	36	33	31	2,893	28	2,444
Appear Proficient in Some Areas	29	31	26	30	31	30	29	29	28	2,559	29	2,546
Appear to be Proficient	36	36	39	37	34	39	35	38	41	3,762	44	3,890
ELEMENTARY ALGEBRA												
Lack Proficiency[2]	49	50	49	46	47	44	46	42	40	3,654	37	3,274
Appear Proficient in Some Areas	40	40	40	42	41	45	39	42	41	3,735	45	4,026
Appear to be Proficient	10	10	11	13	12	11	5	16	20	1,825	18	1,579

[1]See Appendix E for a description of proficiency categories.
[2]Includes those students not attempting this portion of the test.

TABLE 4

Ten Year Comparison of Sector Test Results[1]

Rutgers
1980 - 1989

	1980	1981	1982	1983	1984	1985	1986	1987	1988		1989	
Number of Students Tested	6,237	6,559	6,219	6,251	5,856	6,550	6,753	5,573		5,712		5,849
	%	%	%	%	%	%	%	%	%	#	%	#
VERBAL												
Lack Proficiency	11	9	9	6	7	7	7	7	6	342	7	387
Appear Proficient in Some Areas	34	35	39	30	33	33	32	30	30	1,712	33	1,939
Appear to be Proficient	56	56	53	64	60	60	61	63	64	3,653	60	3,518
COMPUTATION												
Lack Proficiency[2]	13	15	13	10	10	9	11	11	9	536	8	472
Appear Proficient in Some Areas	20	21	18	18	20	18	19	17	17	941	16	957
Appear to be Proficient	66	64	69	72	70	72	70	72	74	4,235	76	4,420
ELEMENTARY ALGEBRA												
Lack Proficiency[2]	19	19	18	14	13	13	13	13	12	655	11	642
Appear Proficient in Some Areas	42	43	45	39	39	44	36	35	32	1,807	37	2,182
Appear to be Proficient	38	38	37	47	48	43	51	52	57	3,250	52	3,025

[1]See Appendix E for a description of proficiency categories.
[2]Includes those students not attempting this portion of the test.

TABLE 5

Ten Year Comparison of Sector Test Results[1]

NJIT
1980 - 1989

	1980	1981	1982	1983	1984	1985	1986	1987	1988		1989	
Number of Students Tested	687	679	722	599	541	497	472	489		555		656
	%	%	%	%	%	%	%	%	%	#	%	#
VERBAL												
Lack Proficiency	16	14	15	15	20	23	19	24	20	111	25	165
Appear Proficient in Some Areas	40	42	43	42	38	43	42	41	41	228	43	279
Appear to be Proficient	44	44	42	44	43	33	39	35	39	216	32	210
COMPUTATION												
Lack Proficiency[2]	3	5	4	5	8	5	6	11	6	35	8	52
Appear Proficient in Some Areas	12	13	11	13	17	14	16	14	16	87	19	123
Appear to be Proficient	85	82	85	82	75	80	78	75	78	433	73	481
ELEMENTARY ALGEBRA												
Lack Proficiency[2]	3	3	5	4	6	4	4	8	6	32	7	45
Appear Proficient in Some Areas	41	40	37	35	38	43	30	34	34	189	45	293
Appear to be Proficient	56	57	58	61	56	52	66	58	60	334	48	317

[1]See Appendix E for a description of proficiency categories.
[2]Includes those students not attempting this portion of the test.

TABLE 6

Ten Year Comparison of Statewide Results for Recent High School Graduates[1]

1980 - 1989

	1980	1981	1982	1983	1984	1985	1986	1987	1988		1989	
Number of Students Tested	29,355	30,540	31,964	32,236	28,466	27,291	27,447	28,169	30,883		30,179	
	%	%	%	%	%	%	%	%	%	#	%	#
VERBAL												
Lack Proficiency	26	28	26	26	29	29	28	28	28	8,668	29	8,763
Appear Proficient in Some Areas	44	44	45	43	44	43	43	42	43	13,202	44	13,129
Appear to be Proficient	30	28	29	31	28	28	29	30	29	8,986	27	8,213
COMPUTATION												
Lack Proficiency[2]	37	38	39	38	38	35	39	38	39	12,076	35	10,532
Appear Proficient in Some Areas	27	27	23	26	27	26	25	25	24	7,502	26	7,856
Appear to be Proficient	36	35	38	36	35	39	36	37	37	11,305	39	11,764
ELEMENTARY ALGEBRA												
Lack Proficiency[2]	49	50	50	48	47	46	46	44	46	14,224	45	13,554
Appear Proficient in Some Areas	36	35	36	35	37	38	33	36	33	10,296	36	10,872
Appear to be Proficient	14	15	14	17	16	16	20	20	21	6,363	19	5,725

[1]See Appendix E for a description of proficiency categories; GED recipients are excluded from the table.
[2]Includes those students not attempting this portion of the test.

TABLE 6A

1989 New Jersey High School Graduates*
Verbal Proficiency Categories by High School Program Type

High School Program	n	Lacking Proficiency	Appear Proficient In Some Areas	Appear Proficient
College Prep	19,089	19%	48%	33%
General	4,123	51%	40%	9%
Bus/Voc/Ind Arts	1,908	54%	41%	5%
GED	57	67%	30%	4%
Other	187	76%	19%	5%
Sub Total	25,364			
Out of State and/or Limited English	4,815			
All 1989 Graduates	30,179	29%	44%	27%

*Recent High School Graduates are those who graduated the spring prior to their enrollment in college. Limited English proficient students are excluded, as well as out-of-state graduates.

TABLE 7

Relationship Between Mathematics Courses Completed in High School and the Computation Proficiency[1] of the Students Tested: 1989 New Jersey Recent High School Graduates Only[2]

Course Category	Total No.	Lack Proficiency No.	Lack Proficiency %	Appear Proficient In Some Areas No.	Appear Proficient In Some Areas %	Appear to be Proficient No.	Appear to be Proficient %
1. Business Math or General Math	1342	1201	89	124	9	17	1
2. Algebra I	1678	1276	76	345	21	57	3
3. Algebra I & Geometry	2358	1531	65	652	28	175	7
4. Algebra I & II	657	423	65	173	26	59	9
5. Algebra I, Geometry & Algebra II	7677	3148	41	2808	37	1721	22
6. Trigonometry (No Senior Math)	5084	780	15	1567	31	2737	54
7. Senior Math (No Trigonometry)	1021	157	15	350	34	514	50
8. Algebra I & II, Geometry & Trigonometry	1506	120	8	323	21	1063	71
9. Calculus (No Senior Math)	2740	88	3	385	14	2267	83
10. Senior Math & Calculus	594	21	4	63	11	510	86
Overall	24,657	8,747	35	6,790	27	9,120	37

[1]See Appendix E for a description of proficiency categories.

[2]Recent high school graduates are those who graduated the spring prior to their enrollment in college. Limited-English-Proficient students are excluded.

TABLE 8

Relationship Between Mathematics Courses Completed in High School and the Elementary Algebra Proficiency[1] of the Students Tested: 1989 New Jersey Recent High School Graduates Only[2]

Course Category	Total No.	Lack Proficiency		Appear Proficient In Some Areas		Appear to be Proficient	
		No.	%	No.	%	No.	%
1. Business Math or General Math	1342	1322	99	19	1	1	0
2. Algebra I	1678	1596	95	81	5	1	0
3. Algebra I & Geometry	2358	2135	91	220	9	3	0
4. Algebra I & II	657	486	74	162	25	9	1
5. Algebra I, Geometry & Algebra II	7677	3738	49	3659	48	280	4
6. Trigonometry (No Senior Math)	5084	853	17	3099	61	1132	22
7. Senior Math (No Trigonometry)	1021	188	18	650	64	183	18
8. Algebra I & II, Geometry & Trigonometry	1506	114	8	811	54	581	39
9. Calculus (No Senior Math)	2740	74	3	849	31	1817	66
10. Senior Math & Calculus	594	16	3	171	29	407	69
Overall	24,657	10,522	43	9,721	39	4,414	18

[1]See Appendix E for a description of proficiency categories.
[2]Recent high school graduates are those who graduated the spring prior to their enrollment in college. Limited-English-Proficient students are excluded.

TABLE 9*

1989 Test Results Of Non-Recent Graduates[1]

	1989	
	#	%
VERBAL		
Lack Proficiency	8,550	47
Appear Proficient in Some Areas	6,608	36
Appear to be Proficient	3,123	17
COMPUTATION		
Lack Proficiency[2]	11,460	63
Appear Proficient in Some Areas	3,795	21
Appear to be Proficient	3,026	17
ELEMENTARY ALGEBRA		
Lack Proficiency[2]	14,469	79
Appear Proficienct in Some Areas	3,009	17
Appear to be Proficient	803	4

*Includes those who may not have enrolled in college after being tested.

[1]See Appendix E for a description of proficiency categories; "non-recent" graduates are students whose diploma was received prior to this year of testing.

TABLE 10

Students Tested, Fall 1989, by Gender Within Sector

Gender	Statewide*		County Colleges		State Colleges		Rutgers		NJIT	
	#	%	#	%	#	%	#	%	#	%
Male	20,885	43	12,537	42	3,769	42	2,744	47	556	85
Female	25,643	53	15,474	51	5,118	57	3,072	53	97	15
No Response	2,263	5	2,146	7	32	0	33	0	3	0
TOTAL TESTED	48,791		30,157		8,926		5,849		656	

*Students from the participating independent colleges are included in statewide totals.

TABLE 11

Students Tested, Fall 1989, by Anticipated Enrollment Status Within Sector

Self-Reported Information	Statewide*		County Colleges		State Colleges		Rutgers		NJIT	
	#	%	#	%	#	%	#	%	#	%
Full-Time	36,177	74	19,336	64	7,585	85	5,636	96	645	98
Part-Time	11,240	23	9,856	33	1,046	12	186	3	5	1
No Response	1,374	3	965	3	295	3	27	0	6	1
TOTAL TESTED	48,791		30,157		8,926		5,849		656	

*Students from the participating independent colleges are included in statewide totals.

TABLE 12

Students Tested, Fall 1989, by Year of High School Graduation

Self-Reported Information	Statewide*		County Colleges		State Colleges		Rutgers		NJIT	
	#	%	#	%	#	%	#	%	#	%
1989	30,510	63	14,769	49	7,068	79	5,415	93	594	91
1988	3,606	7	2,850	10	474	5	119	2	22	3
1987	1,760	4	1,409	5	207	2	53	1	17	3
Prior to 1987	9,929	20	8,657	29	815	9	219	4	12	2
Did Not Graduate	1,287	3	1,218	4	39	0	13	0	4	1
No Response	1,699	4	1,254	4	323	4	30	1	7	1
TOTAL TESTED	48,791		30,157		8,926		5,849		656	

*Students from the participating independent colleges are included in statewide totals.

TABLE 13

Students Tested, Fall 1989, by High School Program

Self-Reported Information	Statewide*		County Colleges		State Colleges		Rutgers		NJIT	
	#	%	#	%	#	%	#	%	#	%
Academic	29,219	60	14,204	47	6,818	76	5,267	90	531	81
General	10,210	21	8,065	27	1,188	13	406	7	78	12
Career	5,676	12	4,910	16	444	5	103	2	26	4
GED	1,505	3	1,355	5	98	1	18	0	6	1
Other	725	2	620	2	49	1	23	0	8	1
No Response	1,456	3	1,003	3	329	4	32	1	7	1
TOTAL TESTED	48,791		30,157		8,926		5,849		656	

*Students from the participating independent colleges are included in statewide totals.

TABLE 14

Mathematics Courses Taken in High School, Prior to Fall 1989

Self-Reported Information	Statewide*		County Colleges		State Colleges		Rutgers		NJIT	
	#	%**	#	%	#	%	#	%	#	%
General Math	22,510	46	17,249	57	2,658	30	1,248	21	190	29
Business Math	9,455	19	7,559	25	1,067	12	355	6	39	6
Algebra I	38,111	78	22,121	73	7,736	87	4,869	83	592	90
Algebra II	29,923	61	14,074	47	7,235	81	5,478	94	612	93
Geometry	33,917	70	17,224	57	7,717	87	5,612	96	615	94
Trigonometry	14,922	31	4,856	16	3,664	41	4,383	75	527	80
Senior Academic	4,950	10	1,498	5	1,305	15	1,473	25	170	26
Calculus	5,176	11	1149	4	1,105	12	2,263	39	237	36
No Response	1,454	3	1,027	3	302	3	34	1	6	1

*Students from the participating independent colleges are included in statewide totals.
**Percentages exceed 100 since students may take more than one math course in high school.

TABLE 15

Background Data (in percent) of Students Tested Statewide, 1980-1989

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
SEX										
Male	45	44	44	45	44	44	44	44	43	43
Female	52	55	54	54	54	54	54	54	56	53
No Response	3	1	2	1	2	2	2	2	1	5
ENROLLMENT STATUS										
Full-Time	79	78	77	78	75	74	74	77	75	74
Part-Time	18	20	21	21	22	22	22	21	23	23
No Response	3	2	2	4	2	3	4	2	2	3
HIGH SCHOOL PROGRAM										
Academic	58	60	61	62	61	62	61	63	62	60
General	19	19	18	18	19	18	19	19	20	21
Career	14	14	14	14	13	13	12	11	12	12
GED	4	4	4	4	3	3	3	3	3	3
Other	4	1	1	1	1	1	1	1	1	2
No Response	2	2	2	2	3	3	4	2	2	3
HIGH SCHOOL RANK										
Highest Fifth	22	23	22	23	21	22	22	23	n/a	n/a
Second Fifth	23	23	23	23	22	22	22	22	n/a	n/a
Middle Fifth	39	39	40	40	40	39	38	39	n/a	n/a
Fourth Fifth	7	7	8	8	9	9	9	9	n/a	n/a
Lowest Fifth	2	2	2	2	2	2	2	3	n/a	n/a
No Response	7	6	5	4	6	5	7	4	n/a	n/a
ENGLISH BEST LANGUAGE										
Yes	n/a	n/a	n/a	92	91	88	90	92	92	91
No	n/a	n/a	n/a	5	5	5	5	5	5	6
No Response	n/a	n/a	n/a	3	4	7	5	3	3	4
OTHER LANGUAGE SPOKEN AT HOME										
Yes	n/a	n/a	n/a	15	15	16	15	16	17	17
No	n/a	n/a	n/a	84	82	79	81	82	81	80
No Response	n/a	n/a	n/a	1	2	5	4	2	2	3
ESL PROGRAM										
Completed	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3
Still Enrolled	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2
Not Needed	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	90
No Response	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	5

TABLE 15A

Background Data (in percent) of Students Tested Statewide, 1980–1989

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
NO. OF YEARS OF HIGH SCHOOL ENGLISH										
One	2	2	2	2	2	2	2	2	n/a	n/a
Two	5	5	4	4	4	4	4	4	n/a	n/a
Three	8	8	6	6	6	5	6	6	n/a	n/a
Four	80	81	83	84	83	81	83	85	n/a	n/a
No Courses	n/a	n/a	n/a	1	1	1	1	1	n/a	n/a
No Response	n/a	n/a	n/a	3	4	7	5	3	n/a	n/a
NO. OF YEARS OF HIGH SCHOOL MATH										
One	6	5	5	4	4	3	3	3	n/a	n/a
Two	19	18	16	16	15	14	14	13	n/a	n/a
Three	31	30	30	29	29	28	29	30	n/a	n/a
Four	39	42	46	47	48	48	49	51	n/a	n/a
No Courses	n/a	n/a	n/a	1	1	1	1	1	n/a	n/a
No Response	n/a	n/a	n/a	2	3	7	5	2	n/a	n/a
MATH COURSES TAKEN IN HIGH SCHOOL[1]										
General Math	37	37	36	37	36	33	37	37	46	46
Business Math	17	18	17	17	16	16	17	17	20	19
Algebra 1	72	72	71	72	71	69	75	77	80	78
Algebra 2	52	53	55	56	56	56	59	63	62	61
Geometry	63	63	63	65	64	64	68	71	71	69
Trigonometry	23	24	26	27	27	28	30	33	31	31
Senior Academic	9	10	10	10	10	10	10	10	10	10
Calculus	7	7	8	9	9	10	10	11	11	11
No Response	n/a	n/a	n/a	2	3	6	5	2	2	3

[1]Percentages exceed 100 since students may take more than one math course in high school.

TABLE 15B

Background Data (in percent) of Students Tested by Sector, 1989

	County (30,157)	State (8,926)	Rutgers (5,849)	NJIT (656)	Recent High School Grads (30,179)	Non-Recent H.S. Grads (18,281)
SEX						
Male	42	42	47	85	45	42
Female	51	57	53	15	54	55
No Response	7	--	1	1	1	6
ENROLLMENT STATUS						
Full-Time	64	85	96	98	92	48
Part-Time	33	12	3	1	8	52
No Response	3	3	1	1	--	--
HIGH SCHOOL PROGRAM						
Academic	47	76	90	81	74	41
General	27	13	7	12	17	30
Career	16	5	2	4	8	20
GED	4	1	0	1	0	7
Other	2	1	0	1	1	3
No Response	3	4	1	1	0	--
ENGLISH BEST LANGUAGE						
Yes	90	91	94	90	94	93
No	6	5	4	8	5	7
No Response	4	5	2	2	1	--
OTHER LANGUAGE SPOKEN AT HOME						
Yes	15	18	24	42	17	19
No	82	79	76	57	83	81

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TABLE 15B (Countiuned)

Background Data (in percent) of Students Tested by Sector, 1989

	County (30,157)	State (8,926)	Rutgers (5,849)	NJIT (656)	Recent High School Grads (30,179)	Non-Recent H.S. Grads (12,281)
ESL PROGRAM						
Completed	4	2	2	7	3	4
Student Enrolled	2	1	n/a	3	1	3
Not Needed	88	92	96	87	94	94
No Response	7	5	2	3	3	--
MATH COURSES TAKEN IN HIGH SCHOOL						
General Math	57	30	21	29	35	63
Business Math	25	12	6	6	15	26
Algebra 1	73	87	83	90	87	65
Algebra 2	47	81	94	93	76	38
Geomotry	57	87	96	94	83	48
Trigonometry	16	41	75	80	40	16
Senior Academic	5	15	25	26	14	5
Calculus	4	12	39	36	14	5
No Response	3	3	1	1	n/a	--
WANT HELP TO IMPROVE						
Math	41	36	32	28	37	43
Reading	12	11	12	18	11	13
Study Habits	38	37	36	40	40	35
Writing	23	25	31	37	24	27
No Response	18	22	24	19	19	--

APPENDIX A

Description of the New Jersey College Basic Skills Placement Test

One purpose of the NJCBSPT is to help determine which students admitted to college need remedial instruction in certain basic skills; that is, the test was designed to discover which of the entering students do not have the level of skills generally expected of college freshmen and deemed necessary for successful completion of their academic programs. Thus, the basic skills measured by the test are defined not as skills necessary to survive in the world (e.g., filling out applications, reading directions on medicine bottles, or the like) but as skills needed to read college textbooks, to write papers for classes, to solve computational and algebraic problems in classes and, indeed, to compete successfully in a technological society.

The portions of the NJCBSPT dealing with verbal and mathematical skills yield the following scores:

1. Reading Comprehension.
2. Sentence Sense.
3. Essay.
4. Composition, a composite score based on the Sentence Sense and Essay sections.
5. Total English score, a composite score based on the Reading Comprehension, Sentence Sense, and Essay sections.
6. Computation.
7. Elementary Albegra.

A more detailed explanation of the test can be found in *Interpreting Scores on the New Jersey College Basic Skills Placement Test*. Similarly, further information concerning the Essay and the mathematics sections of the test can be found in *Scoring the Essays* and *Interpreting Mathematics Scores on the New Jersey College Basic Skills Placement Test*, respectively. All booklets are available from the Department of Higher Education (see inside back cover).

Reading Comprehension (47 questions, including 7 pre-test questions, 50 minutes)

The Reading Comprehension section measures students' ability to understand a written text, to extract the main idea from the text, and to draw appropriate inferences from it. Most, but not all, of the questions testing these skills are related to passages printed in the test book. The passages cover a variety of subjects and represent a variety of writing purposes and styles.

Students taking the test are expected to read the passages carefully and to know what the text actually says. Close reading and attention to detail are expected, as is attention to tone. Merely identifying or confirming facts contained in a passage is not emphasized. Instead, students are expected to be able to generalize about the ideas in the passage and the method of their presentation. They are also expected to be able to identify ideas found in the passage when those ideas are stated in different words and to understand and identify the assumptions made by the author and the implications of the text.

Sentence Sense (40 questions, including 5 pre-test questions, 35 minutes)

The Sentence Sense section uses two kinds of multiple-choice questions. The first requires students to identify faults in sentences and make appropriate corrections. The second asks students to rewrite sentences, much as they would do when editing their own writing.

The problems presented to the student for correction are concerned mainly with the structure and logic of sentences, not with grammar or punctuation. Questions deal with expressing ideas clearly and accurately, appropriately coordinating or subordinating ideas within sentences, and recognizing complete sentences. The types of questions used ask students either to identify problems and correct errors in sentences or to recast sentences to change structure or emphasis - tasks they might perform when they themselves write.

Essay (20 minutes)

The Essay measures whether a student can write unified paragraphs, can organize ideas, can develop a logical argument, can provide specific examples, can use complete sentences, can spell, can punctuate, can interest the reader, can maintain a consistent tone, can express ideas precisely or can do a host of other things that go into writing a good essay.

Each student's essay is holistically scored by two faculty readers. Examples of "good", "mediocre", and "weak" essays are provided to students in the *Information Bulletin*.

Computation (35 questions, including 5 pre-test questions, 40 minutes)

The Computation section measures the ability to perform basic arithmetic operations and to apply the operations to the solution of problems that involve fundamental arithmetic concepts. The questions cover operations with whole numbers, operations with fractions, operations with decimals and percents, and arithmetic reasoning.

Elementary Algebra (35 questions, including 5 pre-test questions, 40 minutes)

The Elementary Algebra section measures the ability to perform basic algebraic operations and to apply the operations to the solution of problems that involve elementary algebraic concepts. It tests operations with real numbers, operations with algebraic expressions, elementary understanding of graphs of equations, and the ability to solve equations, inequalities, and word problems.

Changes in the Test

Since 1978, the NJCBSPT has undergone two significant revisions. For the first four years, a section on "Logical Relations" was included in the test. In 1982, this section was removed and several of the item types were embedded into the Reading Comprehension and Sentence Sense (formerly, Sentence Structure) sections.

In 1985, the Reading Comprehension section was shortened by 10 items in order to compensate for an observed "speededness" effect. For the NJCBSPT, a section is considered to be "speeded" if fewer than 90% of those sitting for the test reach the last item.

INFORMATION BULLETIN 1989

NEW JERSEY COLLEGE BASIC SKILLS PLACEMENT TEST

State of New Jersey • Board of Higher Education
• Department of Higher Education • Basic Skills Council

Purpose of the Test

Now that you have been admitted to a New Jersey public college or participating private college, you will need to take the New Jersey College Basic Skills Placement Test. This test is designed to provide information about your skills in the English language and in mathematics. The test results will be used, along with other information, to place you in the courses and sections appropriate to your level of preparation. In some cases those may be noncredit, developmental courses.

The test measures your skills in reading, writing, computation, and elementary algebra. The full test requires 3 hours and 20 minutes. With the exception of the 20-minute essay section, the test is made up entirely of multiple-choice questions.

Who Must Take the Test

The New Jersey Board of Higher Education requires that the following students take the test:

- all freshmen entering a New Jersey public college (a number of private colleges have also chosen to participate in the testing programs);
- all full-time and part-time freshmen who are seeking a degree;
- any other student who has not already taken the test but who registers for a course that would result in the accumulation of 12 or more credits; and
- any transfer student who has not received transfer credit for freshman composition and mathematics.

Students will be tested only *after* they have been admitted to a college. Students who already hold a bachelor's degree need not be tested. Students enrolled in a bilingual or English as a Second Language (ESL) program should not be tested until they have completed such a program. If you have any questions about taking this test, call or write the Test Administrator at your college.

Los estudiantes se examinaran unicamente *despues* de haber sido aceptados por la universidad. No es necesario que se examinen aquellos estudiantes que ya se hayan recibido de una universidad. Tampoco deberan examinarse los estudiantes que esten matriculados en programas bilingues o de ingles como segunda lengua hasta no terminar su curso de estudios. Si tiene alguna pregunta sobre los requisitos de este examen, llame o escriba al Supervisor de Examenes de su universidad.

Where and When the Test Is Given

The Basic Skills Placement Test is given at all New Jersey public colleges and participating private colleges. Your college will notify you where on campus the test will be administered and the date on which you are to take the test. Each college schedules the date and time for administering the test to its students.

Special Arrangements for Handicapped Students

If you have a visual, sensory, or orthopedic handicap or a temporary disability, such as a broken hand in a cast, that would prevent you from taking the test under standard conditions, you may request special accommodations and arrangements to take it on either a regularly scheduled test date or at a specially scheduled administration. No charge is made for these arrangements. For details, please get in touch with the Test Administrator at your college.

What to Take with You on the Test Day

On the day of the test, be sure to take with you

1. Your Social Security Number
2. Several No. 2 lead pencils with erasers
3. A blue or black ballpoint pen for writing the essay

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Testing Regulations

No books, dictionaries, electronic calculators, or papers of any kind are allowed in the test room. Anyone who gives or receives help during the test, uses notes or books or papers of any kind, or removes test materials or notes from the room will not be permitted to continue the test. The college will invalidate any test score if there is any reason to question its validity.

Test Scores

All your scores on the test will be reported to your college, and your college will determine the procedures for communicating information about the test results to you.

You will receive a score for each section of the test: Essay, Reading Comprehension, Sentence Sense, Computation, and Elementary Algebra. You will also receive a Composition score (made up of your scores on the Essay and Sentence Sense sections of the test) and a Total English score (made up of your scores on the Essay, Reading Comprehension, and Sentence Sense sections of the test).

Confidentiality

Data about you will not be used for other than counseling and placement purposes without your permission. If the data are used for research purposes, special procedures will be used to keep your identity confidential. If you have any questions about confidentiality, see your college's Test Administrator.

Questions and Answers about the NJCBSPT

Q. Why am I being asked to take this test?

A. The results of this test will help place you in courses for which you are best prepared.

Q. Is this an admissions test?

A. No. The test has nothing to do with your being admitted to college. In fact, you will not take the test until *after* you have been admitted.

Q. I have not yet been admitted. Can I still take the test?

A. No. You will have to wait until you've been admitted to college.

Q. I have taken courses at another college. Do I need to take this test?

A. Yes, if you are a freshman. All freshmen who have not taken this test must do so, unless they have received transfer credit for English and mathematics.

Q. I have taken other standardized tests for credit or placement. Do I need to take this test, too?

A. Yes. The test is designed to give you and your college advisors information different from that provided by other tests.

Q. I am not sure whether or not I am required to take the test. What should I do?

A. The Basic Skills Test Administrator of your college will be able to answer your question.

Q. What is the passing grade on the test?

A. You neither pass nor fail this test. Instead, your test results will be used to place you in courses according to your present skills.

Q. Why are you testing English?

A. Reading and writing skills are essential for success in college. You must read well enough to understand your college textbooks and write well enough to prepare term papers and answer questions on essay tests.

Q. Why are you testing mathematics?

A. Certain quantitative skills and mathematical concepts are necessary for success in many phases of college-level work. These are the skills and concepts the test measures.

Q. How do I prepare for the test?

A. While the goal of the test is to assess your skills accumulated over time in reading, writing, and mathematics, a review of mathematics would help refresh those skills, particularly if you have not used them in a while. Review books available at book stores would be useful for this purpose.

Q. I have completed high school. Shouldn't I be ready for college-level work?

A. Probably. But, if you have not had very much practice in writing essays or in careful reading or in basic mathematics, you still might benefit from special instruction.

Q. Suppose I don't do well on the test?

A. Your college will interpret the results of the test and determine which courses you are prepared to take. Your score will not affect your grade point average in any way. Your college may require you to take one or more noncredit courses, which will assist you in raising the level of your skills so that you will be successful in college.

Q. Will I have to pay a fee to take the test?

A. No. The State of New Jersey has provided funds for the development and the administration of the test.

Q. Where do I take the test?

A. Get in touch with your college's Test Administrator for the place and time of testing.

Q. How do I find out how I did on the test?

A. After the tests are scored, your results are sent to the college to help in placing you in the appropriate English and mathematics courses. Your college may also provide you with your individual test scores.

Description of the Test

The first part of the test measures your skills in certain areas of English. It consists of three sections: Essay, Reading Comprehension, and Sentence Sense. These sections of the test are designed to measure your reading and writing skills in order to determine whether or not those skills are at a level that indicates you are prepared to *begin* regular college courses.

The second part of the test measures your quantitative and elementary algebra skills. It consists of two sections: Computation and Elementary Algebra.

The following paragraphs will tell you more about the English and mathematics sections of the test.

The Essay. You will be given 20 minutes to write an essay on an assigned topic. In such a short time, you may not be able to write a polished essay, but it should be as well written as you can make it. In general, your essay will be scored on how well you phrase your ideas and organize them, whether you use specific examples to support your ideas, and whether you follow the conventions of standard written English.

Reading Comprehension. 50 minutes, 47 questions. This section of the test measures how well you understand what you read. The questions will be based on passages in the test.

Sentence Sense. 35 minutes, 40 questions. This section of the test measures how much you know about the way parts of a sentence fit together and about the ways to make the meaning of a sentence clear.

Computation. 40 minutes, 35 questions. This section of the test measures your ability to perform basic arithmetic operations and to solve problems that involve fundamental arithmetic concepts. The topics include whole numbers, fractions, decimals, percents, and applications using arithmetic.

Elementary Algebra. 40 minutes, 35 questions. This section of the test measures your ability to perform basic algebraic operations and to solve problems that involve elementary algebraic concepts. The topics include operations with real numbers, polynomials, algebraic fractions and square root expressions; the use of the rules of exponents; factoring; solving equations, inequalities, and systems of equations; graphs of linear equations; and solving word problems.

Many different kinds of multiple-choice questions are used in the test. A sample of these questions and of an essay topic follows. The answers to the multiple-choice questions appear on page 8.

The Essay

You will have 20 minutes to plan and write an essay on a topic like the one at the top of the next column. Read the topic carefully before you begin writing. This essay is assigned to give you an opportunity to show how well you can write. You should, therefore, take care to express your thoughts on the topic clearly and effectively. How well you write is much more important than how much you write, but to cover the topic adequately you may want to write more than one paragraph. Be specific.

You may want to write an essay on this sample topic for practice.

> Young people often want the power and privileges of older people, whereas older people often feel that childhood and youth are the happiest times of life.
>
> Explain some of the advantages or disadvantages of being the age that you are now. Be specific.

Sample Responses

Good Response:

As a young woman of eighteen, I feel very fortunate to be young enough to enjoy the benefits of my youth and old enough to be wise in my decisions. Being young allows me to be more carefree than my parents because I have fewer responsibilities weighing my life down. I am old enough to choose my own friends and recreations, and I have a driver's license to permit me additional freedom. My parents trust my decisions as mature and responsible, which is very supportive. I am recognized by them as an adult, whereas my younger sister is slightly more restricted. I have also experienced the priviledge of voting in a local ellection, which fulfills a sense of duty for me. My friends feel comfortable having someone to depend on, a responsibility I could not have held up to as well at fourteen. This expansion of my life experiences due to my age status is preparing me for my future by making me a more rounded person.

Being eighteen has its drawbacks. I am not allowed to buy alcohol in the state of New Jersey. This is not a major defeat, but to function in the social circles of adult life, one must socially drink. Because I am still a student, my age is overruled by my educational status. My parents, however supportive, still view me as a child in some respects because I still live in their house. I have not had the full responsibilites of an adult as yet, and the changes seem slow in coming.

In contrast to this, the life of a child of eight or nine sometimes seems much easier. It is sometimes difficult not to be enviable of their carefree lives. I feel that being eighteen is a rich experience, in view of all of its advantages and disadvantages.

Although this writing sample is good, it is neither perfect nor polished, and it is not expected to be either. Further, the sample demonstrates good writing produced in twenty minutes, not the very best of the writing that students taking the NJCBSPT have produced in twenty minutes or the best writing that students might produce under other circumstances.

The twenty-minute writing sample is essentially a first draft. Despite the errors in diction and spelling, the writer obviously has control of the language: the ideas are generally clearly stated; they are organized; they are pertinent. The sentence structure has some variety. The errors in spelling are not frequent. The writer's major weakness is in the inexact use of words. Even so, the writing is strong enough to justify the rating of the total piece of writing as good.

Mediocre Response:

The advantages of being eighteen are numerous. First of all, it is a time when you are no longer considered a child. The majority of eighteen year olders are heading off to college. This is a new beginning because no longer will people do things for you. Now you must do it for yourself.

New ideas are developed by oneself the emergence of self-discipline and being independant are very important.

One of the best advantages is being on your own and doing what you want to do. This includes good studying habits, staying in shape and enjoying the night life.

I find that the disadvantages are very few. The best one is leaving all your high-school friends behind. The same people you got along with for four years.

Another disadvantage is unavailability of a full-time summer job. this would help cut the high cost of college tremendously.

Finally the lack of respect for not living up to your fullest expectations such as top honors in high school and all-country in basketball.

In closing I would like to say that being eighteen is the greatest time of life.

This sample shows such a combination of the good and the bad that it is neither. Some of the sentences are complete, indicating control of sentence structure; others are fragments. There is some organization to the ideas, but that organization is not consistent. Some of the statements are clear; some are murky. The sentences are not very sophisticated in structure, but neither are they invariably simple. The writing is definitely in the middle range.

Weak Response:

If your in a family with older sisters and brothers you will learn. The older kids get more priveleges, to go out later, and not many questions asked of where they were. Young people have to be in earlier and account for everywhere they have been, Older people think childhood is better because they don't have the worries or expences as an adult which in turn makes their life happier. At the age I am at now respoucibility is greater than ever. Every step I take builds up my tomorrow. And every move I make counts either against it or for it. But now my time to make mistakes and learn how to improve them tomorrow.

Although this writing sample is not at the lowest level produced for the NJCBSPT, it is definitely weak. The sample lacks organization; not even a topic sentence appears. Control of language is weak, interfering with communication. The writer's difficulties with sentence structure, for example, make some of the ideas hard for the reader to comprehend on first reading. Even though the writer does have ideas and those ideas are all relevant to the topic, the writing is weak and the sample deserves a low score.

Reading Comprehension

Directions:

> **For each of the questions in this section, you are to select from the four suggested answers the one that is best and fill in the corresponding space on your answer sheet.**
>
> **Some of the questions will test how well you understand certain passages. Answer these questions on the basis of what is *stated* or *implied in the passage*.**

After the following passage, there are sample questions followed by explanations of the best answers.

Questions 1-4

[1]There is a great deal of communication between Chinese teachers and parents, especially when the younger children move into new school settings. [2]Some communication takes place informally when parents walk young children to the school or pick them up, but there are a number of other more formal modes of communication, usually initiated by the schools. [3]These include meetings for parents, most often held early in the school year or at the end of the year, visits from teachers to the homes of the students, and small notebooks that pass back and forth between school and home, referred to as "communication books" or "connection notebooks." [4]The exchange between school and home in China, apparently so much more fluid and continuous than that in the United States, may be the result of the more stable and tighter organization of Chinese neighborhoods. [5]Schools generally seem to be less isolated from homes in China than they are in the West.

1. The main idea in this passage is that

   (A) schools in China are better organized than are schools in the United States
   (B) communication between teachers and parents in the United States is poor
   (C) Chinese parents and teachers communicate frequently with each other
   (D) communication between parents and teachers eliminates certain problems in China's schools

The first sentence of the paragraph indicates what the paragraph is about, and the idea of that first sen-

tence is contained in choice (C). Organization of schools and problems in the schools are not mentioned in the paragraph, and (B) may be implied in the passage but it is not the main idea. Students who did not answer this question correctly were clearly not reading the passage carefully.

2. According to this passage, most informal communication between Chinese parents and teachers occurs

   (A) at the beginning and end of a young child's school day
   (B) when a child is doing well enough to be promoted
   (C) when parents voluntarily come to the school to inquire about the child's progress
   (D) when parents request that the teacher visit them at home

   The answer to this question is contained in the second sentence of the paragraph. Choice (A) restates the information provided there.

3. The author suggests that the school-family connection in China is

   (A) similar in most aspects to what it is in the United States
   (B) supported by neighborhood organizations
   (C) stronger than it is in the United States
   (D) usually controlled by the parents

   The inference is based on the last two sentences. To arrive at (C) the student needs to understand the implications of "more fluid and continuous" and "less isolated from."

4. What is the function of sentence 5 in the passage?

   (A) It clarifies and concludes ideas presented in sentence 4.
   (B) It introduces an implied comparison.
   (C) It provides an exception to a point made in sentence 4.
   (D) It introduces a new idea.

   Sentence 5 continues the comparison between parent-teacher communication in China and parent-teacher communication in the United States, restating the comparison directly and briefly. Sentence 5 therefore functions in relation to sentence 4 as described in choice (A).

The following passage is followed by sample questions without explanations.

Questions 5-7

[1]For hundreds of years, people thought that only veins contained blood and that arteries were filled with air. [2]The blood was supposed to ebb and flow from the heart through the veins, in the manner of a tide. [3]It was not until the 1700's that scientists began to accept the idea that blood left the heart through arteries, circulated throughout the body, and returned to the heart through the veins.

5. The main point of the passage is that, for a long time, it was not known that

   (A) blood is necessary to all parts of the body
   (B) blood circulates through the arteries as well as the veins
   (C) the heart has a relationship to the flow of blood
   (D) arteries could be found in the human body

6. Which of the following best describes the function of sentence 2 in the passage?

   (A) It elaborates on the idea expressed in sentence 1.
   (B) It provides a contrast to the idea presented in sentence 1.
   (C) It supports the idea stated in sentence 3.
   (D) It gives an illustration of the idea suggested in sentence 3.

7. The passage suggests that scientific knowledge has changed in which of the following ways?

   (A) It now provides a more accurate understanding of the human body.
   (B) It casts doubt on the former belief that blood flows through arteries.
   (C) It tries to revise, rather than correct, mistaken ideas about bodily functions.
   (D) It has recently established that arteries carry less blood than veins.

Sentence Sense

The Sentence Sense section uses two kinds of multiple-choice questions. The first requires the students to identify faults in sentences and make appropriate corrections. The second asks students to rewrite sentences, much as they would do when editing their own writing.

The problems presented to the student for correction are concerned mainly with the structure and logic of sentences, not with problems of subject-verb agreement and the like. Questions deal with expressing ideas clearly and accurately, appropriately coordinating or subordinating ideas within sentences, and recognizing complete sentences. The types of questions used ask students either to identify and correct problems in sentences or to recast sentences to change structure or emphasis—tasks they might perform when they write themselves.

Examples of the types of multiple-choice questions used in the Sentence Sense section follow.

Select the best version of the underlined part of the sentence. Choice (A) is the same as the original sentence. If you think the original sentence is best, choose answer (A).

8. <u>The record is held by Andrea, it is in the hundred-yard dash.</u>

   (A) The record is held by Andrea, it is in the hundred-yard dash.
   (B) Andrea holds the record in the hundred-yard dash.
   (C) The record in the hundred-yard dash being held by Andrea.
   (D) The hundred-yard dash record, which is held by Andrea.

   This question asks the student to recognize first that the original sentence neither fits the traditional definition of a complete sentence nor presents the ideas in it in an appropriate way. Choice (B), which is the correct response, eliminates the comma fault and conveys the required information briefly and clearly.

9. Jenny's Cinderella costume was more elaborate than <u>Henry, who wore a ghost costume.</u>

   (A) Henry, who wore a ghost costume.
   (B) Henry in a ghost costume.
   (C) Henry's ghost costume.
   (D) Henry's who wore a ghost costume.

   This question presents a problem in logic in that the original sentence compares a costume to a person. The sense of the sentence requires that two costumes be compared. Choice (C) is the only one that provides that comparison.

In the following questions, you are going to be asked to rewrite sentences in your head. You will be told exactly how to begin your new sentence. Keep in mind that your new sentence should be well written and should have the same meaning as the sentence given you.

10. George saw no familiar faces when he looked around the room.

    Rewrite, beginning with

    <u>Looking around the room,</u> . . .

    The next words will be

    (A) George saw no familiar faces
    (B) no familiar faces could be seen
    (C) and seeing no familiar faces
    (D) then George saw no familiar faces

    To answer this question, the student must remember that George is looking around the room and that, therefore, *George* must be the word to follow the comma in the new sentence. Only by using *George* can the student avoid creating a sentence that has a dangling modifier.

11. If she had not agreed to work late this evening, she would be able to go shopping for Eleanor's birthday present.

    Rewrite, beginning with

    <u>She cannot go shopping for Eleanor's birthday present</u>. . .

    The next words will be

    (A) since her agreement
    (B) even though she agreed
    (C) without first agreeing
    (D) because she has agreed

    The sense of the original sentence is kept only when (D) is used to form the new sentence: <u>She cannot go shopping for Eleanor's birthday present because she has agreed to work late this evening.</u>

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Computation

Directions: Solve each of the following problems.

1. Of the following which is closest to: $\sqrt{4{,}000}$?
   (A) 40 (B) 60 (C) 200 (D) 2,000

2. Which of the following is greatest?
   (A) $\frac{2}{3}$ (B) $\frac{5}{12}$ (C) $\frac{1}{2}$ (D) $\frac{3}{8}$

3. $\frac{3}{4} - \frac{1}{2} + \frac{2}{5} =$
   (A) $\frac{3}{20}$ (B) $\frac{4}{11}$ (C) $\frac{4}{7}$ (D) $\frac{13}{20}$

4. $23.5 \times 3.04 =$
   (A) 714.4 (B) 79.9 (C) 71.44 (D) 7.99

5. 16 is what percent of 80?
   (A) 5% (B) 12.8% (C) 20% (D) 64%

6. Bill purchased a car and made a down payment of \$560. If the down payment was $\frac{1}{5}$ of the purchase price, what was the purchase price?
   (A) \$112 (B) \$2,240 (C) \$2,800 (D) \$4,480

Elementary Algebra

Directions: Solve each of the following problems.

7. If $x = 4$ and $y = -2$, then $x^2y - xy^2 =$
   (A) 48 (B) 16 (C) -16 (D) -48

8. $\sqrt{18} + \sqrt{8} =$
   (A) $\sqrt{26}$ (B) $5\sqrt{2}$ (C) 10 (D) 12

9. If $2x + 3(x - 2) = 30$, then $x =$
   (A) $\frac{5}{36}$ (B) $\frac{24}{5}$ (C) $\frac{32}{5}$ (D) $\frac{36}{5}$

10. One factor of $3a^2 - 13a - 10$ is
    (A) $(3a + 2)$ (B) $(3a - 5)$ (C) $(a + 2)$ (D) $(a + 5)$

11. If A represents the number of apples purchased at 15 cents each and B represents the number of bananas purchased at 10 cents each, which of the following represents the total purchase price in cents?
    (A) $25AB$ (B) $25(A + B)$ (C) $15A + 10B$ (D) $A + B$

12. $\frac{5}{a} + \frac{7}{b} =$
    (A) $\frac{12}{a + b}$ (B) $\frac{12}{ab}$ (C) $\frac{5b + 7a}{a + b}$ (D) $\frac{5b + 7a}{ab}$

Key to Sample Questions

ENGLISH		MATHEMATICS	
1. C	7. A	1. B	7. D
2. A	8. B	2. A	8. B
3. C	9. C	3. D	9. D
4. A	10. A	4. C	10. A
5. B	11. D	5. C	11. C
6. A		6. C	12. D

APPENDIX B

Participating Independent and Proprietary Institutions

Berkeley College of Business

Caldwell College

Centenary College

Fairleigh Dickinson University--
Madison, Rutherford, & Teaneck Campuses

Felician College

Georgian Court College

Katharine Gibbs School

Northeastern Bible College

Seton Hall University

Upsala College

Westminster Choir College

APPENDIX C

NJCBSPT Year to Year Score Equating

Raw scores for the NJCBSPT are computed simply by adding the points awarded for each correct answer. However, the official scores for the NJCBSPT are reported as scaled scores which are derived by applying a conversion formula to the raw scores. The reason for reporting scaled scores is that they can be made comparable across different years, since a new form of the test is developed annually.

Equating is the statistical process that makes it possible to report scaled scores that have essentially the same meaning for different forms of a test. Scores on each new form of the NJCBSPT are equated to scores on the previous form. These scores on the previous form are already "on scale." That is, the formula or table that converts raw scores to scaled scores on the previous form has already been defined. The equating process links each possible raw score on the new form to a scaled score on the previous form.

Simply put, the object of equating is to have the same scaled score on any form of the test represent the same level of the ability the test is measuring. A scaled score of "165," for example, would mean the same thing from one year to the next. However, this definition is not precise enough to serve as the basis for a statistical procedure. A more precise definition is the "equipercentile" definition. It states that a score on one form of the test is equated to a score on another form in a group of students if the two scores have the same percentile rank in that group of students. For example, suppose that in a group of students the 34th percentile on Form A of a test is a raw score of 12; that is, 34 percent of the students scored below 12 on Form A. And suppose that in this same group of students, the 34th percentile on Form B is a raw score of 13; that is, 34 percent of the same group of students scored below 13 on Form B. Then in this group of students a raw score of 13 on Form B would equate to a raw score of 12 on Form A, and these two raw scores would correspond to the same scaled score. This definition forms the basis for the equating of NJCBSPT scores. Methods based on other, simpler definitions are often used, but only when their results are consistent with the results of methods based on the equipercentile definition.

For the NJCBSPT, there is no group of students taking the new form and the previous form under the same conditions (i.e., at approximately the same time, with no instruction in between). The information that links the new form with the previous form is provided by "common items" -- questions repeated from the previous form of the test. The equating methods used for the NJCBSPT assume that students with the same score on the common items would do equally well or poorly on the non-common items of the test. If a group of students performs better on equating items (ca. 40% of the test) than the group who took the test the previous year, this would indicate an improvement in basic skills level.

For example, suppose we focus our attention on the students who took last year's form and answered exactly 10 of the common items correctly. Suppose their average raw score on the full test (last year's form) was 19. Then we would assume that this year's students who answered 10 of the common items correctly would also have had an average raw score of 19 on last year's form, if they had taken it.

This assumption makes it possible to estimate the scores that this year's students would have earned on last year's form and also the scores that last year's students would have earned on this year's form of the test. Therefore, it is possible to estimate the percentiles on either form in the combined group of this year's students and last year's students. The equating is based on the estimated percentiles (or other score statistics) in this combined group.

Some of the equating methods used for the NJCBSPT automatically produce a "linear" equating formula -- one that can be represented on a graph by a single straight line. Methods based on the "equipercentile" definition of equating produce a table linking each score on the new form to a score on the old form, but this table cannot be precisely represented by a simple formula. However, the statisticians who equate the NJCBSPT now approximate this table by a series of linear equating formulas -- different formulas in different portions of the score range.

ETS performs score equating on the basis of the test results received by May and again on the basis of the cumulative results received through September. Each of these equatings includes the application of at least three statistical models: two linear models and one curvilinear model. A second curvilinear model is used if there is evidence of curvilinearity in the equating results. The standard ETS equating software

includes linear models based on the work of Tucker and Levine. When there is little evidence of curvilinearity, the Tucker method is preferred if the old and new form samples of students are quite similar in anchor test means and variance, while the Levine method is preferred if the samples of students differ substantially in anchor test means or variances. When old and new test forms differ in length, as did the Reading Comprehension test forms between 1984 and 1985, the Levine method for tests of unequal reliabilities is used in place of the Levine method for tests of equal reliabilities. The standard ETS method includes a curvilinear model based on an equipercentile equating of the new form to the old form by equating each to the anchor test of common items. A second curvilinear equating method is equipercentile equating, based on frequency estimation. The above equating models are described in Angoff's chapter of Educational Measurement (edited by R. L. Thorndike, American Council on Education, 1971). The equating procedures are performed with a package of standard ETS equating computer programs. The programs have been successfully used in ETS testing programs (including the NJCBSPT) for many years. ETS measurement statisticians review the results of all equating models applied and choose the raw-to-scale score conversion that best reflects the differences in test difficulty indicated by the equating results.

Each year, after the first cycle of scoring, ETS issues to the colleges the "final form" of the raw-to-scaled score conversion table that links the NJCBSPT scaled scores from year to year.

APPENDIX D
1 of 6

NJCBSPT Mean Scaled Scores
Statewide
1980 - 1989

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Number of Students Tested	47,951	49,833	51,135	51,321	46,465	44,344	44,284	42,603	48,358	48,791
MEAN SCALED SCORES:										
Reading Comprehension	164	163	163	163	161	161	161	161	161	160
(Standard Deviation)	(12.2)	(12.7)	(12.7)	(12.9)	(13.2)	(13.0)	(13.2)	(13.4)	(13.3)	(13.1)
Sentence Structure/Sense	164	164	165	165	164	164	164	164	164	164
(Standard Deviation)	(11.6)	(11.9)	(11.5)	(11.5)	(11.6)	(11.6)	(11.6)	(11.8)	(11.6)	(11.4)
Essay	7.2	6.7	6.9	6.5	7.0	7.1	7.0	6.9	7.1	7.3
(Standard Deviation)	(2.1)	(2.0)	(2.0)	(2.1)	(2.0)	(1.9)	(1.9)	(2.0)	(1.8)	(1.9)
Composition[1]	165	164	165	165	165	165	165	165	165	165
(Standard Deviation)	(11.3)	(11.5)	(10.9)	(10.7)	(10.9)	(11.1)	(11.2)	(11.4)	(11.0)	(10.8)
Total English[2]	165	164	164	164	163	163	164	163	163	163
(Standard Deviation)	(11.6)	(11.9)	(11.6)	(11.5)	(11.5)	(11.6)	(11.8)	(11.8)	(11.6)	(11.2)
Math Computation	164	164	165	165	165	165	165	166	165	165
(Standard Deviation)	(11.1)	(11.0)	(10.7)	(10.5)	(10.5)	(10.5)	(10.5)	(10.5)	(10.5)	(10.1)
Elementary Algebra	165	166	166	167	167	167	167	168	166	166
(Standard Deviation)	(12.2)	(12.4)	(11.7)	(11.8)	(11.6)	(11.7)	(11.9)	(11.8)	(12.3)	(12.3)

[1]Composition is a composite score based on Sentence Structure/Sense and Essay.
[2]Total English is a composite score based on all three reading and writing sections.

APPENDIX D
2 of 6

NJCBSPT Mean Scaled Scores
County Colleges
1980 - 1989

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Number of Students Tested	28,464	30,073	30,380	30,677	28,191	26,288	26,322	24,117	29,209	30,157
MEAN SCALED SCORES:										
Reading Comprehension	161	161	160	159	158	158	158	157	158	157
(Standard Deviation)	(12.9)	(13.3)	(13.3)	(13.4)	(13.4)	(13.1)	(13.5)	(13.5)	(13.4)	(13.1)
Sentence Structure/Sense	161	161	162	162	161	161	161	161	161	161
(Standard Deviation)	(12.1)	(12.3)	(11.9)	(12.0)	(11.9)	(11.8)	(11.9)	(12.1)	(11.7)	(11.4)
Essay	6.7	6.2	6.5	6.0	6.6	6.7	6.6	6.4	6.7	6.9
(Standard Deviation)	(2.1)	(2.0)	(2.0)	(2.1)	(2.0)	(1.9)	(1.9)	(2.0)	(1.8)	(1.9)
Composition[1]	162	161	162	162	162	162	162	161	162	162
(Standard Deviation)	(11.7)	(11.8)	(11.2)	(10.8)	(11.0)	(11.2)	(11.3)	(11.3)	(11.0)	(10.6)
Total English[2]	161	161	161	161	160	160	160	160	160	160
(Standard Deviation)	(12.1)	(12.3)	(12.0)	(11.6)	(11.5)	(11.5)	(11.7)	(11.6)	(11.4)	(10.9)
Math Computation	161	161	162	162	162	162	162	162	162	162
(Standard Deviation)	(11.1)	(11.0)	(10.6)	(10.1)	(10.1)	(10.2)	(10.1)	(10.1)	(9.9)	(9.5)
Elementary Algebra	161	161	162	162	162	162	162	163	161	161
(Standard Deviation)	(10.4)	(10.6)	(10.2)	(9.9)	(9.7)	(9.8)	(9.8)	(9.8)	(10.0)	(10.0)

[1]Composition is a composite score based on Sentence Structure/Sense and Essay.
[2]Total English is a composite score based on all three reading and writing sections.

APPENDIX D
3 of 6

NJCBSPT Mean Scaled Scores
State Colleges
1980 - 1989

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Number of Students Tested	10,669	10,338	11,328	10,981	9,767	9,237	8,817	9,369	9,214	8,926
MEAN SCALED SCORES:										
Reading Comprehension	166	165	165	166	164	163	164	164	164	164
(Standard Deviation)	(10.3)	(11.1)	(11.3)	(11.0)	(11.6)	(11.7)	(11.8)	(11.9)	(11.7)	(11.6)
Sentence Structure/Sense	167	167	167	168	167	167	167	168	168	168
(Standard Deviation)	(9.7)	(10.0)	(9.9)	(9.8)	(10.0)	(10.2)	(9.9)	(9.8)	(10.1)	(9.5)
Essay	7.5	7.2	7.3	7.0	7.4	7.4	7.4	7.3	7.4	7.7
(Standard Deviation)	(1.8)	(1.8)	(1.8)	(1.9)	(1.8)	(1.7)	(1.7)	(1.8)	(1.6)	(1.9)
Composition[1]	168	167	167	168	168	167	167	168	168	168
(Standard Deviation)	(9.5)	(9.6)	(9.5)	(9.2)	(9.4)	(9.7)	(9.6)	(9.8)	(9.6)	(9.4)
Total English[2]	167	167	167	167	167	166	166	166	167	166
(Standard Deviation)	(9.7)	(10.0)	(10.0)	(9.7)	(9.9)	(10.1)	(10.2)	(10.2)	(10.1)	(9.8)
Math Computation	167	167	167	168	167	168	168	168	169	169
(Standard Deviation)	(9.5)	(9.6)	(9.4)	(9.2)	(9.3)	(9.2)	(9.3)	(9.1)	(9.1)	(8.7)
Elementary Algebra	167	168	168	169	169	169	169	170	171	171
(Standard Deviation)	(11.1)	(11.2)	(10.7)	(10.8)	(10.5)	(10.3)	(10.7)	(10.7)	(11.0)	(10.8)

[1]Composition is a composite score based on Sentence Structure/Sense and Essay.
[2]Total English is a composite score based on all three reading and writing sections.

NJCBSPT Mean Scaled Scores
Rutgers
1980 - 1989

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Number of Students Tested	6,237	6,559	6,219	6,251	5,856	6,550	6,753	5,573	5,712	5,849
MEAN SCALED SCORES:										
Reading Comprehension	170	170	170	171	170	170	170	170	171	170
(Standard Deviation)	(8.5)	(8.7)	(8.5)	(8.0)	(8.6)	(8.6)	(8.7)	(8.8)	(8.2)	(8.4)
Sentence Structure/Sense	171	171	171	172	173	172	172	173	173	173
(Standard Deviation)	(8.0)	(8.3)	(8.6)	(7.1)	(7.1)	(7.2)	(7.3)	(7.3)	(7.0)	(6.7)
Essay	8.3	7.9	7.8	7.9	8.2	8.2	8.2	8.2	8.2	8.4
(Standard Deviation)	(1.7)	(1.7)	(1.6)	(1.7)	(1.6)	(1.5)	(1.5)	(1.8)	(1.5)	(1.6)
Composition[1]	172	172	171	173	173	173	173	173	173	173
(Standard Deviation)	(7.9)	(8.2)	(7.6)	(7.3)	(7.3)	(7.7)	(7.7)	(8.1)	(7.5)	(7.3)
Total English[2]	172	172	171	173	172	172	173	173	173	173
(Standard Deviation)	(8.0)	(8.3)	(7.7)	(7.4)	(7.6)	(8.0)	(8.0)	(8.3)	(7.8)	(7.6)
Math Computation	172	172	173	174	174	174	174	175	175	175
(Standard Deviation)	(7.7)	(7.8)	(7.3)	(6.8)	(6.8)	(6.7)	(7.0)	(6.9)	(6.6)	(6.3)
Elementary Algebra	177	177	177	179	179	179	179	180	180	180
(Standard Deviation)	(10.8)	(10.9)	(9.7)	(9.6)	(9.3)	(9.6)	(9.4)	(9.4)	(9.2)	(9.1)

[1]Composition is a composite score based on Sentence Structure/Sense and Essay.
[2]Total English is a composite score based on all three reading and writing sections.

APPENDIX D
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NJCBSPT Mean Scaled Scores
NJIT
1980 - 1989

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Number of Students Tested	687	679	722	599	541	497	472	489	555	656
MEAN SCALED SCORES:										
Reading Comprehension	170	169	168	169	162	165	167	165	166	164
(Standard Deviation)	(8.7)	(10.1)	(10.2)	(10.2)	(11.5)	(12.0)	(10.4)	(11.6)	(11.3)	(12.1)
Sentence Structure/Sense	170	169	170	170	169	168	169	168	169	168
(Standard Deviation)	(8.3)	(9.0)	(9.0)	(8.9)	(9.5)	(10.4)	(9.5)	(10.9)	(9.3)	(10.1)
Essay	7.6	7.2	7.2	7.0	7.5	7.1	7.2	7.2	7.2	7.6
(Standard Deviation)	(1.8)	(1.7)	(1.7)	(1.9)	(1.9)	(1.8)	(1.6)	(1.9)	(1.7)	(1.8)
Composition[1]	170	169	168	169	169	167	168	167	168	167
(Standard Deviation)	(8.0)	(9.0)	(8.8)	(8.8)	(9.6)	(10.2)	(9.2)	(10.7)	(9.6)	(9.6)
Total English[2]	170	169	168	169	168	166	168	167	167	166
(Standard Deviation)	(8.1)	(9.3)	(9.2)	(9.2)	(10.3)	(10.7)	(9.7)	(10.9)	(10.1)	(10.3)
Math Computation	176	175	175	176	175	175	176	175	176	175
(Standard Deviation)	(4.2)	(5.0)	(5.1)	(5.1)	(6.1)	(5.7)	(5.8)	(6.7)	(5.4)	(6.2)
Elementary Algebra	182	182	182	183	181	182	183	181	182	181
(Standard Deviation)	(6.8)	(6.8)	(6.6)	(6.5)	(7.7)	(7.3)	(6.7)	(8.2)	(7.3)	(7.6)

[1]Composition is a composite score based on Sentence Structure/Sense and Essay.
[2]Total English is a composite score based on all three reading and writing sections.

NJCBSPT Mean Scaled Scores
Statewide Comparison of Recent High School Graduates*
1980 – 1989

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Number of Recent High School Graduates	29,355	30,540	31,964	32,236	28,466	27,291	27,447	28,169	30,883	30,179
Percent of Total Test Takers	61%	61%	63%	63%	61%	62%	63%	66%	64%	62%
TOTAL ENGLISH										
Number Completing Test	29,255	30,488	31,621	31,538	28,401	27,262	27,156	27,805	30,856	30,105
Not Attempted	100	52	46	192	65	29	291	83	27	74
Mean Score	166	165	165	166	165	165	165	165	165	165
Standard Deviation	10.5	10.8	10.3	10.2	10.5	10.5	10.7	10.8	10.7	10.3
MATH COMPUTATION										
Number Completing Test	29,222	30,415	31,856	31,661	28,438	27,274	27,406	27,844	30,859	30,151
Not Attempted	133	125	108	69	28	17	41	44	24	28
Mean Score	166	166	166	167	167	167	167	168	167	168
Standard Deviation	10.1	10.1	9.9	9.6	9.8	9.7	9.8	9.7	9.7	9.2
ELEMENTARY ALGEBRA										
Number Completing Test	27,496	28,499	29,754	29,995	27,134	25,742	26,055	26,902	30,121	29,561
Not Attempted	1,859	2,041	2,210	1,735	1,332	1,549	1,392	986	762	618
Mean Score	168	168	169	169	169	169	170	170	170	170
Standard Deviation	11.9	12.1	11.4	11.5	11.3	11.4	11.6	11.5	11.8	11.9

*For each year, the most recent high school graduates are those who graduated the spring prior to their enrollment in college.

APPENDIX E

A Description of the Proficiency Levels Established by the Basic Skills Council as a Guide for College Placement Procedures

Based upon its understanding of the content and difficulty level of the NJCBSPT, and upon the recommendations of its advisory committees, the Council offers the following general propositions to assist in understanding the test results presented in this report.

Verbal Skills

For the purpose of this report, students who scored below 161 on Total English* were placed in the "Lack Proficiency" category. Those who fell in the 161-172 range on Total English were placed in the "Appear to be Proficient in Some Areas" category while those students above 172 on Total English, "Appear to be Proficient." A more precise understanding of an individual student's scores can be achieved by considering the following.

In the Council's judgment, all students with essay scores of 2, 3 or 4, and those students with an essay score of 5 or 6 but fewer than 80 percent correct on either of the two multiple-choice tests, are seriously deficient in their use of written language. An essay score of 2, 3, or 4 indicates pronounced weakness in writing: in these essays the message is not always clear, the idea is either not developed or not logical, and the conventions of written language are usually not observed. An essay score of 5 or 6, together with fewer than 80 percent correct on one or both of the multiple-choice tests, indicates a need for help in following the conventions of written language, and in developing and comprehending an idea in a coherent manner.

Many students exhibit a pattern of performance that must be reviewed more carefully, since they probably require some assistance in one or more areas according to the requirements and standards of the individual colleges. Students in this category

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*Total English is a composite score based on all three reading and writing sections.

either did not demonstrate proficiency in one or more areas, or their essay and multiple choice scores may have exhibited a discrepancy. For example, a high essay score and a low Sentence Sense score is a pattern that bears examination. Essay scores of 5, 6 or 7 together with multiple-choice scores above 80 percent correct are "average" in that the essays tend to lack depth and coherence and, despite the multiple-choice scores, the writing samples may exhibit flaws in structure and/or language conventions. An essay score of 7 combined with scores of less than 80 percent correct on one or both of the multiple-choice tests indicates at best a marginal performance. An essay score of 8-12 combined with fewer than 80 percent correct on any one of the multiple-choice tests is a discrepant pattern, since the essay score indicates a range from above-average to excellent, and the multiple-choice scores appear to contradict the essay score.

Students with essay scores of 8-12 and 80 percent correct on both multiple-choice tests seem to be proficient in the basic skills of reading and writing. The writers of these essays have control of both the language and the structures they are using; generally speaking, they can comprehend a relatively mature idea and develop it in standard English.

Computation

A scaled score of 164 or below (18 or fewer questions correct out of 30 on the 1989 test) indicates pronounced weaknesses in dealing with certain computational operations and, in particular, with problems involving percentages and decimals. Declining scores indicate progressively greater difficulty with operations involving fractions. Students scoring at or below 164 on the Computation test are included in the category: "Lack Proficiency."

The range of scaled scores from 166 to 172 (19 to 24 questions correct) indicates greater familiarity with Computation but still shows definite weaknesses. The particular weaknesses of a student can be identified only by examining individual item responses. Students falling in the range of 166 to 172 on the Computation test fall in the category, "Appear to be Proficient in Some Areas."

Students who achieve a scaled score of at least 174 (25 questions correct) seem to be proficient in the computational skills measured by this test and fall in the "Appear to be Proficient" category.

Elementary Algebra

Students who achieve a scaled score of 165 or below (13 or fewer questions correct out of 30 on the 1989 test) lack any understanding of Elementary Algebra. Such students may possess a smattering of knowledge but have difficulty with a wide variety of elementary operations, and are not able in general to perform sustained operations involving a succession of simple steps. Students in this category, "Lack Proficiency" probably need to restudy Elementary Algebra from the beginning.

The particular difficulties of students who score in the scale range from 167 to 181 (14 to 24 questions correct) vary. They have some misconceptions, have some trouble dealing with equations involving letters rather than numbers, and probably cannot handle sustained operations well. The type of assistance or course work such students may require will depend on each student's background and can be determined by careful examination of the particular patterns of item responses. Students scoring in the range of 167 to 181 on Elementary Algebra are included in the "Appear to be Proficient in Some Areas" category.

Students who achieve a scaled score of 182 and above (25 or more questions correct) seem to have no widespread weaknesses in performing elementary algebraic operations and fall in the "Appear to be Proficient" category. They probably can do simple, sustained operations. The test, however, does not extend far enough in difficulty level to determine whether students scoring in this highest range are able to complete a more complex succession of simple operations.

ADDITIONAL NJCBSPT PUBLICATIONS AND RELATED REPORTS*

Information Bulletin 1990.

Interpreting Scores on the New Jersey College Basic Skills Placement Test.

Interpreting Mathematics Scores on the New Jersey College Basic Skills Placement Test.

Scoring the Essays.

Research Monographs:

Cycle-to-Cycle Consistency of the Scoring of NJCBSPT Essays. Educational Testing Service, 1986.

The Effects of Time Limits on the Quality of NJCBSPT Essays. Educational Testing Service, 1987.

Teaching Reading & Writing. New Jersey Basic Skills Council, 1984.

Thinking Skills: An Overview. New Jersey Basic Skills Council, 1986.

Effectiveness of Remedial Programs in Public Colleges and Universities, Fall 1984-Spring 1986. New Jersey Basic Skills Council, 1988.

**Publications and reports are available from the Basic Skills Assessment Program, New Jersey Department of Higher Education, 20 West State Street, CN 542, Trenton, NJ 08625, (609) 292-8881.*